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Qualitative Analysis of the Implementation of an Autism Program Within a Public School District

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A QUALITATIVE ANALYSIS OF THE IMPLEMENTATION OF AN AUTISM PROGRAM WITHIN A PUBLIC SCHOOL DISTRICT

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Dissertation Approval

This is to certify that the thesis presented to us by Lucilla F. Hernandez

on the 14th day of February, 2008, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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Abstract

The study analyzed the development, implementation and success of an educational program for children with Autism Spectrum Disorder (ASD) diagnosis within a public school structure. Records reviewed for a two year time period identified four phases to program development and implementation, as well as identifying themes and barriers for specific roles, administration, staff and parents. The success of the program is evidenced by growth in the children and by reported satisfaction of parents and staff. A program blue print offers an outline to program development and implementation. Necessary ASD program components, based on literature reviewed are summarized. This study highlights the feasibility and benefits of implementing a program of this type within a public school structure.

Background information and clarification of terms

Background Information

The Autism Program was started within the Elizabeth Public Schools in September 2005. Originally it was called the Verbal Behavior (VB) Program, so named after the methodology that was used. The VB Program was comprised of the model preschool disabled class (VB PSD) and three components classrooms, for a total of four classes offering some service to children with ASD diagnosis or related behaviors. It officially became the Autism Program the following academic year (2006 - 2007) when six classrooms were officially designated as *autistic class types* as noted in New Jersey Department of Education – Administrative Code Chapter 6A:14. At this time, parent services were expanded to include training at home for selected families. Presently (February, 2008) the Autism Program is in its third year and provides services to forty-two children across seven *autistic type classroom*s in three separate schools within the district. Specific implementation requirements are in place for all the classes, and regular meetings are held in order to coordinate services, disseminate information, identify needs and plan for them, provide training and maintain program identity. Support and training services are provide to parents in English and Spanish. Autism Program staff continually provides ASD awareness and training across the district.

Terms

Administrator/Administrative Role: Administrator usually refers to a principal, vice principal or supervisor. However, though not an administrator, the District Behaviorist assumed an administrative role in the development and implementation of the Autism Program.

Case Manager: Child Study Team (psychologist, social worker, learning disabilities teacher consultant – LDTC) member responsible for overseeing the IEP implementation and providing direct support to an Autism Program class.

Components classes: Leaning/Language Disabilities (LLD) class type and Preschool Disabled class type where the teacher, case manager, and speech therapist had attended the Verbal Behavior training, and there was at least one student in the class presenting with ASD diagnosis or associated behaviors. These classes implemented some type of Verbal Behavior methodology.

District Behaviorist/Case Manager to the model class: The District Behaviorist was the person responsible for recommending that a model class be implemented as well as recommending the methodology and the agency to provide training. During the first year the District Behaviorist functioned in many roles, clinical support, trainer, coordinator of services and case manager to the model class. The District Behaviorist is a school psychologist,

bilingual in English and Spanish, and carried out her responsibilities in the implementation of the Autism Program as part of her doctoral internship.

Paraprofessional: Specifically refers to classroom assistant.

VB PSD/ PSD VB: Preschool Disabled Verbal Behavior model class. This was the only class to implement Verbal Behavior methodology for all the students during the first year, 2005-2006. There were eight students in the class, one teacher and four paraprofessionals.

Verbal Behavior Network (VBN): Agency responsible for providing original training and consultation to the Autism Program.

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Introduction

On February 8, 2007 the Centers for Disease Control and Prevention (CDC) released results of the Autism Developmental Disabilities Monitoring Network (ADDM) study, reporting the prevalence of Autism Spectrum Disorder (ASD) as 1 in 150 children. For the State of New Jersey the incidence of ASD was 1 in 86, with males being affected at the rate of 1 in 60 (Centers for Disease Control and Prevention, Autism Developmental Disabilities Monitoring Network Report, 2007).

The release of this study has further contributed to the already growing concern regarding the frequency of ASD and the overall public attentiveness to this diagnosis. Most recently the Autism Society of America (ASA) electronic newsletter *ASA-NET* has announced that MTV will be airing *MTV's True Life: I'm Autistic* as part of their True Life series (ASA-NET, March, 26, 2007).

The reality is that Autism is a devastating condition which prevents individuals from creating meaning out of their environments, from purposefully communicating, and from finding active pleasure in interaction with other human beings. Although knowledge and awareness are increasing, it continues to be a diagnostic and treatment challenge. The diagnostic challenge may lie in the fact that it is a spectrum disorder; it is diagnosed, based on observation and behavioral anecdotes, and thus subject to significant human error (Brock, Jimerson and Hansen, 2006; Grinker, 2007).

The treatment challenge may also lie in its spectrum designation. A number of sources (Catherine Maurice, O. Ivar Lovaas, etc) speak of children who have been *cured* through the use of specific *treatments*, offering hope (actual or false) to parents (Maurice, 1993; Lovaas, 1987). Sifting through the abundant research of all aspects related to ASD is a massive task for professionals and is overwhelming and confusing for parents. It is in the education arena that parents and professionals converge to address, jointly, the treatment of ASD, hopefully as partners.

Little research is available on actual program development and implementation within a public school educational setting (Baker-Ericzén, Stahmer and Burns, 2007; Handleman and Harris, 2001). The majority of studies have been conducted in clinical settings or in educational settings that are university sponsored, and thus have greater resources and are likely to have a number of other favorable variables, such as active parental involvement and actual choice of participants (Baker-Ericzén et al., 2007; Ingersoll and Dvortcsak, 2006; Boulware, Schwartz, Randale, McBride, 2006). Research is non-existent in the development and implementation of Autism programs in public school settings, especially where the population is predominantly of low socio-economic status (SES) and of minority status, in terms of race and language (Baker-Ericzén et al., 2007; Hesmondhalgh 2006; National Research Council, 2001).

The Elizabeth School District is located in Northeast New Jersey, in close proximity to New York City. It has approximately twenty-one thousand (21,000)

students and operates twenty-eight (28) school buildings. The student population is 64% Hispanic; this is in comparison to the state's 18%; it is 25% Black in comparison to the state's 18%, and 10% White in comparison to the state's 57%. Seventy-six percent (76%) of the students participate in the free and reduced lunch programs (New Jersey Department of Education, 2005-2006). Elizabeth is an Abbott School District.

The term Abbott District is used to refer to the thirty-one (31) New Jersey school districts identified by the New Jersey Supreme Court and Legislature as eligible to receive state financial assistance. Besides receiving additional financial support, the districts were mandated to carry out educational reforms in order to improve educational outcomes. This legislation is the result of a number of decisions stemming from a series of lawsuits filed in 1981 on behalf of the children residing in the most economically disadvantaged school districts (New Jersey Department of Education, 2007).

Although Elizabeth School District's demographics differ significantly from the State's, the number of students with ASD diagnosis is surprisingly similar to the national numbers. Approximately 1 in 177 students in the Elizabeth School District have been found eligible for special education services under the category of Autistic. (Elizabeth Board of Education, 2006).

The diversity of the district as it relates specifically to its minority population, i.e., a Spanish speaking population and a lower socio-economic

population, presents as unique challenges in the provision of educational services, especially to children with a diagnosis of Autism.

For the Elizabeth School District, the need to develop and implement a program for children with ASD diagnosis within its regular education buildings became a necessity born out of multiple needs: code mandating that a higher percentage of classified students be included with non-disabled peers, excessive cost of out- of- district schools (presently as high as $95,000. per year, per student for an Autism program), increasing numbers of students with diagnosis of ASD, inappropriate educational programming available in district, and the out-of - district program's inability to fully meet the needs of the family in training and communication.

The Autism Program within the Elizabeth School District was established in order to provide specialized and comprehensive educational services to children with a diagnosis of Autism Spectrum Disorder (ASD) or the behaviors associated with ASD. Originally called the Verbal Behavior (VB) Program, so named after the methodology utilized, the program began as a model within special education classrooms in September 2005. One of the Preschool Disabled (PSD) class types was designated as the model class, and three Learning/Language Disabled (LLD) class types implemented some of the Verbal Behavior methodology; these classes were called components classes. Only in the model Verbal Behavior Preschool Disabled (VB PSD) class did all of the

children serviced present with ASD diagnosis (ASD, PDD, Autism) or ASD related behaviors.

Although still in its infancy, the program (now known as the Autism Program) has grown significantly, from a model class and components classes to six classrooms officially designated as Autistic class types; all this occurred within a year. A seventh class was added at the beginning of the 2007-2008 academic year.

The development, implementation and growth of a program for children with ASD diagnosis, within a regular education system in a highly diverse and economically challenged city have been, and continue to be challenging endeavors. It is unique in the district of Elizabeth in its philosophy, structure, methodology, and services. It is probably unique in comparison with other programs servicing children with Autism throughout the state of New Jersey.

Little research is available on populations similar to the Elizabeth School District, especially as it relates to Autism and program development and implementation within a regular education structure (Ingersoll and Dvortcsak, 2006; Siegel, 2003, Siegel, 1996). Because program growth will add stressors to the current program structure, it is necessary to identify the key components to its on-going success. Further, the identification of these components can serve as a guide to similar districts interested in implementing a similar program. Finally, documenting the implementation of the Autism Program and its success can

affirm that this type of program is viable within districts as a service model for students with ASD diagnosis.

Autism Overview

ASD is a neuro-psychological developmental disorder. Individuals with ASD present with impairment in communication, in social interaction, often exhibiting restricted, repetitive and stereotypical patterns of behavior. It is four times more common in males than in females. Because it is a spectrum disorder, individuals with this diagnosis can present very differently. Most children can be diagnosed accurately by the age of three; however, increased awareness of the disorder is making earlier identification possible (CDC, Autism Spectrum Disorders Overview, 2007).

The term ASD, is not found in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)*. It is a fairly new term, which casts a wider net to include a greater variability of the degree of the symptoms (Grinker, 2007; Brock, Jimerson and Hansen, 2006). Because it is not officially in the *DSM-IV-TR* it is impossible to state clearly what is meant by all individuals using this diagnosis. For most, ASD has become synonymous with the *DSM-IV-TR* general category of Pervasive Developmental Disorders (PDD), specifically Pervasive Developmental Disorder, Not Otherwise Specified (PDD-NOS) and Autistic Disorder (APA, 2001; Brock et al., 2006; Grinker, 2007). PDD-NOS and Autistic Disorder are two of five diagnoses under the larger

umbrella of Pervasive Developmental Disorders (PDD). The five diagnoses under PDD are: PDD-NOS, Autistic Disorder, Asperger's Disorder, Rett's Disorder and Childhood Disintegrative Disorder (APA, 2001). Refer to Appendix A for diagnostic criteria for Autism Disorder and Appendix B for diagnostic criteria for Pervasive Developmental Disorder – Not otherwise specified.

The diagnosis of ASD probably evolved, among other possibilities, from early intervention efforts to identify and provide services (Perera, Vijeralman and Bolland, 2007), from increased parental awareness of child development and demand for services, and from insurance issues; that is, from the need for diagnosis in order to receive reimbursable services (Grinker, 2007). Although a wider scope can be positive, it can also add to the confusion. Presently ASD is described as treatable, not curable, yet it has been this researcher's increasing experience that children are being *undiagnosed.* Parents whose children had been given the diagnosis are now being told that the child no longer presents with symptoms, and the diagnosis is withdrawn. An incorrect initial diagnosis is the most obvious explanation. A diagnosis that is made too early may be the problem, i.e., the need to diagnose as opposed to the need to identify areas of deficit to be treated. The disorder's spectrum designation can also contribute to its misdiagnosis. A clear understanding of ASD is important (Thompson, 2005); it is crucial for programs establishing and implementing services for children with this diagnosis.

> As noted by the *DSM-IV-TR*, Pervasive Developmental Disorders "are characterized by severe and pervasive impairment in several areas of development: reciprocal social interaction skills, communication skills, or the presence of stereotyped behaviors, interests, and activities. The qualitative impairments that define these conditions are distinctly deviant relative to the individual's developmental level or mental age.…These disorders are usually evident in the first years of life and are often associated with some degree of Mental Retardation….are sometimes observed with a diverse group of other general medical conditions (e.g., chromosomal abnormalities, congenital infections, structural abnormalities of the central nervous system)." (pp. 69-70)

In order for a child to receive the diagnosis of Autistic Disorder, a specific criteria as outline on the *DSM-IV-TR* must be met. (See Appendix A for diagnostic criteria for Autistic Disorder). Overall, a significant impairment in social interaction and communication must be present, as well as a restricted repertoire of activities and interests. Mental retardation is commonly present, as is an uneven development of cognitive skills. Behavioral symptoms are common, ranging from severe temper tantrums, to hyperactivity, to self-injurious behaviors. Eating difficulties and sleep disorders are common, and neurological symptoms can be present. Seizure disorders are reported in approximately 25% of children with the diagnosis (APA, 2000; Brock et al., 2006; Grinker, 2007).

The diagnosis of PDD-NOS is assigned when a child presents with the features associated with PDD but does not meet the specific criteria for any one of the four diagnoses under the PDD umbrella (DSM-IV-TR, 2000). Refer to Appendix B for diagnostic criteria of PDD-NOS.

ASD, Socio-Economic Status, Race and Culture

ASD is found across cultures (Grinker, 2006), socio-economic statuses, and is equally present across races (CDC, Autism Spectrum Disorders Overview, 2007; Siegel, 1996). The same diagnostic features associated with the disorder in the US are also associated with the disorder across cultures. Culture defines that which is *normal* development and thus defines behavior; what varies is the culture's perception of the disorder; some may perceive the symptoms as divine or spiritual. Some cultures have not given a name to autism nor do they perceive the symptoms as abnormal. In his wonderful book, *Unstrange Minds* (2007) Roy Grinker makes reference to children with ASD associated behaviors, the "*marvelous children* of Senegal, called *Nit-ku-bon*, or the Navajo Indian children with autism in the American Southwest, who are seen simply as perpetual children" (pp. 49 -50). It is the culture's perception of the condition that will determine the need for treatment and type (Grinker, 2007).

It is also culture that drives the parent's role in their child's treatment. Presently parent training and parental involvement are recommended as part of any program for children with ASD (Brookman-Frazee, 2004; New Jersey

Department of Education, Fall 2004). However if parents, based on their culture, do not see their roles as active participants in their child's treatment/education, then an important part of the program is lost. A literature search does not indicate the presence of studies on culture and perception of parental roles in education or disability. However, it has been this researcher's experience that culture does play a role in how parents perceive their function in their child's education/treatment. Consequently establishing a positive relationship with parents, becoming familiar with their cultures and establishing trust in order to encourage parents to be active participants in an ASD program is essential.

An increase in ASD, or possibly an increase in awareness, is reported world wide (Grinker, 2007; Hesmondhalgh, 2006). The Internet has probably been a major contributor to increased awareness and is a major disseminator of information, some factual, some not (Grinker, 2007). A fairly new website, www.manitasporautismo.com, is available to Spanish language speakers. The site is sponsored by a parents group *Manitas por Autismo* (Hands for Autism) based in New Jersey. A review of this site can direct the reader to a number of services and agencies located in Spain, and in South and Central America. Although some of the information is not current, it speaks to the need of factual and current information for non-English speaking individuals. Here again, society may be playing a major role in the reported increases.

Although a review of the literature and media programming seems to suggest a world wide *epidemic*, a review of the World Health Organization's

(WHO) website, www.who.net, does not seem to reflect an emphasis in Autism related literature. The symptoms of autism are present across all cultures; however, the increase in documented cases is prevalent across Western and *industrialized* cultures that rely on standardized diagnostic measures and statistical reporting. The American Psychiatric Association's (APA) *Diagnostic and Statistical Manuals* (*DSM*), and the WHO's *International Classification of Disease* (ICD) serve to standardize symptoms and diagnoses. However the manuals are revised and consequently diagnoses change. Grinker (2007) highlights the revision of the *DSM-III* as a pivotal point in the increase in diagnosis of autism. "The result of the changes in the *DSM-III-R* was that more people were categorized as autistic than ever before…Rates of autism diagnosis really started to take off at this time, not only in the United States but in Scandinavia, England and Japan, too."(p. 138)

Historical Perspective

The term Autism is rooted in psychiatry, and was initially associated with schizophrenia. In the early 1900's, Bleuler used it to refer to a withdrawal to a fantasy state by schizophrenics. Kanner used the term in the 1940's to refer to schizophrenic children, but with an emphasis on the social deficits (Olley, 1992). Prior to 1980, Autism was generally categorized as a form of childhood psychosis. In 1980, it is given its own diagnostic category in the *Diagnostic and*

Statistical Manual, Third Edition (*DSM-III*). In November 2004, it was recognized as a diagnosis in France (Grinker, 2007; Hesmondhalgh, 2006).

It is in France, in 1801, that physician Jean Itard described autistic behaviors in a twelve year old boy. The child had been found rummaging for food and was described by Itard as nonverbal, using howling and guttural vocalization, as not responding appropriately to people, as having fixed routines and engaging in aggression and tantrums when these routines were varied, and as engaging in bizarre behaviors. Itard taught the child, Victor, to communicate by giving him carved pieces of wood that Victor utilized to have his requests met; if Victor wanted an apple he would offer Itard a piece of wood carved to resemble an apple. Although Victor's tantrums decreased with the use of this communication system, Itard noted that Victor's bizarre behaviors continued. The child was eventually placed in a school for deaf children (Thompson, 2005). Although it occurred two centuries earlier, Itard's communication system is similar to the concept of *manding* in Verbal Behavior.

The US Department of Education introduced Autism as an eligibility category for special education services in 1991 - 1992. In 1992, there was a 23% increase in students diagnosed with Autism. Prior to 1991 – 1992, children with Autism were classified either as Mentally Retarded (MR), or as having some other type of disability. The diagnosis of Autism appears more preferable to parents than MR (Grinker, 2007), at least in the United States. Additionally an

ASD or Autism diagnosis can make some services reimbursable by insurance that would not otherwise be eligible without the diagnosis (Grinker, 2007).

Although ASD presents with deficits in three major areas, it is a disorder of degree, with frequent co-morbidity with a number of psychiatric disorders. Changes in diagnostic classifications, cultural perceptions of a diagnosis and a huge opportunity for information dissemination and communication across cultures (the Internet) may be artifacts in the current ASD increase and awareness.

ASD Treatment

Treatment is guided by the understanding /perception of a condition (Thompson, 2005); consequently, treatments for ASD are varied, ranging from psycho-pharmaceutical, to behavioral intervention, to a combination of treatments (Brock et al., 2006; National Institute of Mental Health, 2004).

Maneuvering through the ASD maze is an overwhelming task for professionals, and even more for parents (Heflin and Simpson, 1998). The variety of treatment options, coupled with opposing views among professionals, has created significant confusion (Heflin and Simpson, 1998; Iovannone, Dunlap, Huber, and Kincaid, 2003). Parents do not necessarily possess the knowledge to process all the material, but are also heavily invested, emotionally and financially; this can make the process all that more difficult. For parents with limited economic resources, and for immigrant parents who may lack adequate family support and who do not speak the dominant language, this task is gargantuan.

It is evident that early intervention is important (CDC, Autism Spectrum Disorder Overview, 2007; Lovaas, 1987; Levy, Kim and Olive, 2006; Thompson 2005), as is providing services across settings, not only in a clinic or school, but also in the home, with services being provided by parents and other non-professionals (Ziegler, 1999). To some degree ASD seems to transcend the accepted notion of a disability; this notion suggests that it must be treated or cured by trained professionals. Family, friends and lay people are becoming the trained *professionals*.

The current trend is to broaden the locations where services are delivered; the emphasis is on identifying the needs of the child (Iovannone et al., 2003), and then providing a grouping of services and coordinating these services. The importance of presenting the child with developmentally appropriate tasks and of offering the child an exposure to natural settings is becoming increasingly underscored (National Research Council, 2001; Wetherby and Woods, 2006). This should be a further impetus for school districts to provide programs, because schools are the most natural settings for children.

Increasing is the parent's role in the provision of services to children with ASD. Parents are becoming one, among the multiple service providers; they are called upon to be coordinators of services, in addition to having very active roles as their children's advocates (Brookman-Frazee, 2004; Ingersoll and Dvorlcsak, 2006; Iovannone et al., 2003; Levy, Kim and Olive 2006; Ziegler, 1999).

Therefore it is imperative that they be included as part of any program servicing children with ASD.

The Center for Disease Control (CDC) acknowledges the variety of available interventions for ASD, and recommends that the interventions be individualized, intensive and be provided as early as possible (CDC, 2007). It supports the recommendations by the American Academy of Pediatrics (2001), noting the following as necessary treatment components: have structure, direction and organization, be individualized, and take into account the child's developmental state and the child's strengths and weaknesses.

Presently the most widely accepted and recommended interventions are behaviorally and educationally based.

Behavioral and Educational Interventions

A review of the research literature is disheartening because the majority of studies on ASD interventions are not empirically sound (Francis, 2005; Gresham, Beebe-Frankenberger, and MacMillan, 1999; Thompson, 2005; Wheeler, Baggett, Fox and Blevins, 2006). However, based on clinical evidence there are intervention features that consistently emerge as effective, such as behavioral techniques, positive reinforcement, structure within the environment, task variability and interspersal, use of visual cues, individualized goals and programming, developmentally appropriate activities based on the child's level of functioning, presentation of tasks in a natural environment, establishing a

rewarding environment, parental involvement and an overall comprehensive approach that is well coordinated (Francis, 2005; Gresham et al., 1999; Humphries, 2003; Thompson, 2005).

Currently the most widely known and accepted behavioral and educational interventions include Applied Behavior Analysis (ABA), Discrete Trial Training (DTT), Verbal Behavior (VB), Pivotal Response Treatment (PRT), Developmental Individual-Difference Relationship Approach – DIR/Floortime, and Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH).

Applied Behavior Analysis – ABA

Applied Behavior Analysis or ABA is presently the most widely known and accepted treatment. Unfortunately many lay and professional people are not clear about what is meant by ABA (Kates-McElrath and Axelrod, 2006). For most, ABA has become synonymous with discrete trial and long term and intensive intervention. ABA is often erroneously perceived as identical to the program developed and implemented by O. Ivar Lovaas at the Young Autistic Program at UCLA in 1987.

Bailey and Burch (2006) define ABA as "an approach to behavior that began with the publication of the Journal of Applied Behavior Analysis in 1968 and that emphasizes determining causal variables for socially significant

behaviors and developing ethically appropriate treatments that produce socially valid changes for the participant." (p.189)

ABA is the actual application of behavior analysis, rooted in Behaviorism. ABA defines human behavior in observable and measurable terms. It identifies antecedents and consequences to behaviors, and attempts to manage behaviors by manipulating the antecedents and consequences. Reinforcement is an integral part of ABA, which is conducted in highly structured environments where there is opportunity for manipulation of variables and for data collection. ABA sets the canvas for a number of other specific, interventions to occur (Sundberg, M. and Michael, J., 2001).

Discrete Trial Training (DTT)

Discrete trial is a systematic way of breaking down a behavior or a task to its most basic component. Each step is taught and reinforced before the next sequential step is introduced. There is much repetition in discrete trial, and skills are taught in isolation (Lovaas, 1981; Maurice, 1996). This is one of the major criticisms of discrete trial; learning becomes repetitive with little intellectual reward or application beyond the actual teaching trials. Generalization of tasks learned through discrete trial tends to be poor.

Discrete trial has long been associated with Lovaas' work at the Young Autistic Project. This study has now been widely criticized as lacking the necessary research components to be empirically sound (Francis, 2005; Gresham

et al., 1999; Wheeler et al, 2006). Another major criticism of the project is that aversives were originally used; this is no longer the case. Presently, the Lovaas' method is perceived as outdated and too narrow in its approach to language acquisition (Francis, 2005).

The major flaw to Lovaas' study may be a humane flaw; it gave false hope to many parents who did not have the necessary research knowledge to read through his findings properly. However, his study has spurred parents to actively seek treatment for their children with diagnosis of ASD; consequently they ask (demand) specific services from their school districts and this results in school districts moving to identify, provide and now implement effective programming for children with ASD diagnosis.

Verbal Behavior

In the Preface of his book *Verbal Behavior* (1957), B. F. Skinner briefly outlines the journey of the book from its inception in 1933 to its publication in 1957. It is evident that it was a painstaking process to conceptualize language in terms of behaviorism. Skinner knew that his views would not be accepted by linguists and that even some behaviorist would have a difficult time with this approach to language acquisition. Skinner was right, as evidenced by the almost fifty year delay in the acceptance and growing application of Verbal Behavior. Presently it has been the work of Vincent Carbone and Mark Sundberg that has translated Skinner's analysis of verbal behavior to an applied science.

Applied Verbal Behavior is ABA to language. A condition is established that will elicit language; then the language product/behavior is reinforced. Shaping is used to *clean up* the language. Concepts such as *tacts*, *mands* and *intraverbals* are taught, if they are not present within the child's repertoire of language behaviors. Undesired forms of communication, such as misbehaviors, are put on extinction by being ignored. Because communication is one of the primary deficits in ASD, Verbal Behavior directly impacts upon it and consequently addresses the behavioral features, because frequently behavioral difficulties are the results of the inability to communicate (Sundberg and Michael, 2001).

Language is conceptualized in terms of formal and functional aspects. Formal properties of language consist of classes of responses such as nouns, verbs, adjectives, proverbs, syntax, grammar rules, articulation, prosody, etc. The functional properties of language pertain to the circumstances associated with language such as motivation and stimuli to elicit language and pragmatics (Sundberg and Partington, 1998).

Skinner defined language as expressive and receptive behaviors. Receptive language is observed in a person's ability to follow direction; a more complicated function occurs when individuals are able to demonstrate receptive knowledge of objects by function, feature or class (RFFC). Expressive language is categorized into echoics (repetition), imitation (imitation of action), tacts (labeling), mands (requesting), intraverbals (verbal conceptualization of

something that is not present), textual (reading) and written (Sundberg and Partington, 1998). Conceptualizing language in terms of behaviors allows for the manipulation of antecedents and consequences, thus exerting more control over its production. The inability of students with ASD to communicate tends to be a major concern for parents; consequently, a treatment that directly addresses communication is favored by parents.

Most Verbal Behavior programs will utilize ABA based techniques in order to address the social and behavioral deficits and establish the motivation to communicate. Children who are not able to verbalize are introduced to American Sign Language (ASL). Initial signs, the same as initial words, are established by what is motivating and reinforcing to the children, thus creating the desire to communicate and interact. Further, conditions are created that force interaction and communication, such as *sanitizing* the environment; that is, everything is out of the child's reach, so that the child must interact/communicate in order to get what he/she desires. Initially few demands are placed on the child, and the presence of others is reinforced by *pairing* the individuals with what is reinforcing to the child.

Because children with diagnosis of ASD often present with gaps across skill areas, most Verbal Behavior programs will administer the Assessment of Basic Language and Learning System (ABLLS) within the first two months. The ABLLS establishes a profile of a child's functioning across twenty-five (25) skill areas. Based on the child's profile, the Individualized Educational Program (IEP)

can be designed to address the areas where gaps are present and to address major areas first (Partington and Sundgerg, 1998). For example, if it is noted that the child has limited reinforcers, then one of the first goals would be to increase the child's reinforcers, so that a wider repertoire is available to motivate and reinforce behaviors. Intensive teaching and natural environment teaching techniques can be part of a Verbal Behavior program.

Pivotal Response Treatment - PRT

Pivotal Response Treatment (PRT) is based on ABA and is derived from the research conducted by Lynn and Robert Koegel at the Koegel Autism Center, University of California at Santa Barbara. PRT focuses on the identification of motivation and responsiveness to multiple environmental cues as pivotal behaviors. Changes in these pivotal behaviors have a positive impact on other behaviors such as communication, social interaction and play. Choice, task interspersal and reinforcement play a major role in PRT. The emphasis is on positive behavioral interventions (Baker-Ericzén, M., Stahmer, A. and Burns A., 2007; Humphries, 2003).

Developmental, Individual-Difference Relationship Approach – DIR / Floortime

DIR is the result of the work conducted by Stanley Greenspan, and Serena Weider of Maryland. DIR focuses on the individual achievement of developmental milestones as they relate to thinking, communicating and relating

to others. The emphasis is on the child's unique way of processing information and the place where they are in terms of development. Activities are based on this combination of individual ability and development and emphasize relationship building with caretakers. Floortime refers to the specific process designed to assist the child in working through these developmental stages. The process is lengthy and labor intensive, but can be accomplished with a diverse staff (parents, family members, friends) who has been trained. It is designed to engage the child and to pull the child away from solitary activities, making engagement with others a positive experience (The Floortime Foundation, 2007).

Treatment and Education of Autistic and Related Communication Handicapped Children – TEACCH

TEACCH was developed by Eric Shoepler of the University of North Carolina Medical School. It emphasizes an individualized approach to assessment and program development, with the ultimate goal being maximum independence. It is a comprehensive program available from childhood through adulthood and provides education, vocational training and employment support services, in addition to social skills and communication development. Parent training is a program component (Division TEACCH: TEACCH Autism Program, 2007).

TEACCH programs have been implemented worldwide and interpret ASD symptoms as the result of cognitive differences. These differences are reflected in

how children with ASD think and perceive the world, and further explain the reason for the behavioral difficulties. Individuals with ASD are seen as culturally different; it is the goal of the program to understand the culture of ASD (Francis, 2005).

It is this researcher's opinion that the TEACCH model, in its conceptualization and implementation as a comprehensive program, offers the best guidelines for program development and implementation within a public school setting.

Education of Students with ASD

The current trend in education is towards educating children with ASD diagnosis within an inclusive setting (New Jersey Department of Education-NJDOE, October, 2006). Traditionally, children with ASD have been educated in segregated, out-of-district schools where the opportunity for interaction with non-ASD and non-disabled peers is virtually non-existent. Eventually some ASD students were returned to in-district programs, but only after they had *earned* their way back to the inclusive settings (Boulware et al., 2006).

The segregation of ASD students to out-of-district placements may have been rooted in a number of factors; among these are the need for highly specialized instruction and services as originally advocated by studies such as Lovaas, the belief that severely impaired children did not benefit from interaction with non-disabled peers, a societal or cultural view of special education as

separate from regular education, and the enforcement of this view by special education law.

Special education law has changed; and this, along with the current plethora of ASD research, may be the driving force behind the changes in the education of students with ASD diagnosis. Increasingly, research is noting that interaction with non-ASD peers leads to an increase in appropriate social interaction (Boutot, 2007). Typically developing peers can serve as language and behavioral models to students with ASD diagnosis (Sundberg and Michael, 2001). Further, non-ASD students can become reinforcing to students with ASD diagnosis and further increase their desires for social interaction and connectedness.

In addition to segregated out-of-district placements, students with ASD diagnosis were often educated within district but in non-Autism specific, segregated, special education classes (Brock, E., Jimerson, S. and Hansen, R., 2006). These special education classes were often designated as cognitive impairment, multiple handicapped and behavior disability class types. Although these classrooms offered the opportunity for interaction with non-ASD and non-disabled peers, they lacked the scope of services and specialization often required by students with ASD diagnosis.

Eligibility for special education services is determined by the U. S. Department of Education, Individuals with Disabilities in Education Act - IDEIA regulations (Brock, et al., 2006; Grinker, 2007; New Jersey Administrative Code

Chapter 6A:14). These same regulations also guide the program types (i.e.: autism, learning disabilities, etc). In the State of New Jersey, Individuals with Disabilities in Education Improvement Act (IDEIA) regulations are outlined in the New Jersey Administrative Code Chapter 6A: 14. In order for a student to be eligible for special education a three prong criteria must be met: (1) the student must be found to have one of the fourteen disabling conditions identified in the Code, (2) this condition must have an educational impact and (3) the student must demonstrate a need for special education and related services. If this three pronged criteria are met, the student is then classified *Eligible for Special Education and Related Services*. Educational program, services and placement location are determined by the student's needs as identified during the initial evaluation (New Jersey Administrative Code Chapter 6A: 14).

The disabling condition of *autistic* is defined as follows in the New Jersey Administrative Code Chapter 6A: 14-3.5: "a pervasive developmental disability

> which significantly impacts verbal and nonverbal communication and social interaction that adversely affects a student's educational performance. Onset is generally evident before age three. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change, or change in daily routine, unusual responses to sensory experiences and lack of responsiveness to others. The term does not apply if the student's adverse educational performance is due to emotional [factors] as defined

> in (c) 5 below. A child who manifests the characteristics of autism after age three may be classified as autistic if the criteria in this paragraph are met. An assessment by a certified speech-language specialist and an assessment by a physician trained in neurodevelopmental assessment are required." (p.54)

An individualized education program (IEP) is developed for every classified student, outlining the services required. Administrative code mandates that students be educated in the least restrictive environment. This means that students with a disabling condition are educated with non-disabled peers to the appropriate, maximum extent possible. If the needs of a disabled student can not be met within a regular education classroom with instructional and other supports, then a more restrictive environment can be sought. For students who have been placed in more restrictive settings, activities designed to transition the student back to a least restricted environment must be reviewed at least annually (New Jersey Administrative Code Chapter 6:14- 4.2).

An educational program (IEP) is based on the child's strengths and needs. When the IEP can not be implemented in a regular education classroom, then placement in a more specialized setting must be considered. *Autistic* is a program (class) type as defined in the NJAC Chapter 6:14-4.7. However, no specific guidelines are required in terms of services or instruction; code specifies only student to staff ratio. The student to staff ratio for an Autistic class-type as

mandated by code is 3:1. Code further mandates that the age span for any class-type is not to exceed three years (New Jersey Administrative Code Chapter 6:14).

The education of children with ASD diagnosis within a self-contained Autistic class does not identify methodology or minimal services. Educational law has not integrated current autism research into policies that could establish a mandated delivery of services (National Research Council, 2001). It is no surprise that the majority of children with ASD diagnosis were provided with services in out-of-district, segregated and more restrictive schools. These schools defined themselves as providing educational services specific to students with ASD diagnosis.

Programs for Children with ASD

Education code mandates that all children be entitled to a free and appropriate public education (FAPE) (Brock, E., Jimerson, S. and Hansen, R., 2006). Code notes that for classified students, FAPE is defined by the IEP; however, it does not offer a substantive definition of education (Yell, Katsiyannis, Drasgrow, Herbst, 2003). Most educators and administrators describe education in terms of academics and of behaviors pertinent to benefiting from the educational process. Special education code specifies that any type of related service must be connected to an educational benefit. Because, to date, the most effective treatments for students with ASD are behavioral and educational interventions, ASD presents a unique challenge, again, to the educational

administrative structure. Frequently the emphasis on the intervention is on the reduction of ASD associated behaviors, so that the child can ultimately benefit from the educational process. Academics and *meeting benchmarks* are probably not the most immediate goals for many of the students with ASD diagnosis.

Traditionally, special education programs have been a class type, not a program; for example, Learning/Language Disability is a class type in which the students are presented with some degree of specialized instruction and if needed, related services. The students are assigned a case manager to address concerns, and to oversee the implementation of the IEP (New Jersey Administrative Code Chapter 6:14). These classes operate within the district, within the structure of the special services department and in the building in which they are housed. Programs for children with ASD diagnosis must be comprehensive, highly specialized, well coordinated and provide an array of services (Boulware et al., 2006; National Research Council, 2001). In essence, a program for children with ASD is a *program,* and transcends the perception of education as an academic endeavor. A program for students with ASD diagnosis provides treatment; education is the method, and the educational structure is the vehicle.

Unfortunately there is no research on the implementation of comprehensive programs for children with ASD within a regular education setting (Handleman and Harris, 2001). It is probably too soon. Traditionally these programs have been located in segregated out-of-district schools, and most of the available literature is related to programs that are university, clinic or hospital

based. The clinical and financial supports and the flexibility in the structure are significantly different from what an in-district program would encounter. An in-district program would need to provide the necessary services, yet adhere to the administrative structure, or attempt to effect the necessary changes to this structure.

Handleman and Harris (2001) in their book *Preschool Education Programs for Children with Autism* profile ten preschool programs for children with ASD. Three of the programs are located in the State of New Jersey. All the programs provide university training; four are located in a university campus; two are located in private schools; two provide services across settings (home, schools, etc.) but are university based, and one describes itself as providing services in a public setting, TEACCH. Although all of these address parent training, none discusses how each has addressed this with non-English speaking parents, or how each would address it. Handleman and Harris (2001) acknowledge the benefits of programs that are university based or sponsored and note "there is little information on the needs of inclusive programs." (p.4)

Major features of ASD programs such as those highlighted by Handleman and Harris (2001) include appropriate curriculum, parental involvement, on-going staff training, clinical supervision, and the need for an administrative structure.

Throughout the literature and across service models, parental involvement resonates loudly as a major program component (Boulware et al., 2006; Ingersoll

and Dvortcsak, 2006; Singh, N., Lancioni, G., Winton, A., Fisher, B., et al., 2006; Summers, Houlding and Reitzel, 2004).

The need for an appropriate curriculum is specifically echoed by the National Research Council (2001) and by others (Iovannone et al., 2003; Grisham, 2006; Olley, 1999). The curriculum should assist the children in achieving the objectives as outlined in each child's IEP. The objectives need to be observable and measurable and able to be accomplished within the year. The objectives should affect a child's ability not only to participate within an educational setting, but also within his or her family and community. As noted, this is a shift away from an educational model to a treatment model. The curriculum should provide the necessary guidelines and activities so that development in the following areas is addressed:

a. Social skills to enhance participation in family, school, and community activities (e.g., imitation, social initiations and response to adults and peers, parallel and interactive play with peers and siblings);
b. Expressive verbal language, receptive language, and non-verbal communication skills;
c. A functional symbolic communication system;
d. Increased engagement and flexibility in developmentally appropriate task and play, including the ability to attend to the environment and respond to an appropriate motivational system;

d.

e. Fine and gross motor skills used for age appropriate functional activities, as needed;

f. Cognitive skills, including symbolic play and basic concepts, as well as academic skills;

g. Replacement of problem behaviors with more conventional and appropriate behaviors; and

h. Independent organizational skills and other behaviors that underlie success in regular education classrooms (e.g., completing a task independently, following instructions in a group, asking for help). (National Research Council, 2001, p.218).

A number of program features are consistently recommended throughout the literature, such as provision of services for a calendar year, as opposed to a school year (NRC, 2001; Handleman and Harris, 2001) and on-going monitoring of the child's' progress with revision of the educational plan if no progress is noted within three months (NRC, 2001; Iovannone et al., 2003). Consistently noted across the literature is the importance of the opportunity for the ASD child to interact with non-ASD and non-disabled peers (Boulware et al. 2006; Boutot, 2007; Levy et al., 2006; Siegel, 2003). Non-public school based programs, address this by implementing what is called *reverse* mainstreaming; in this program, non-disabled peers are brought into the segregated, out-of-district placement (Handleman and Harris, 2001). Obviously this addresses the need only

superficially, but it clearly demonstrates the importance of this feature for any successful program.

Recognizing the need to establish programs for children with ASD within a public education structure, the Sate of New Jersey, New York State and the province of Alberta, Canada have developed guidelines for effective programs. Major themes permeate throughout the three education departments, with very few differences.

The New York State *Autism program quality indicators* (Crimmins, Durand, Theurer-Kaufman, and Everett, 2001) is set up as a four point rating scale and outlines specific areas composed of detailed requirements. The purpose of the document is to assist schools or programs in conducting a self-analysis of the educational services provided as a whole. The instrument can be used as a tool for quality improvement, allowing the school or program the opportunity to quantify their strengths and weaknesses.

The *New Jersey autism program quality indicators* (2004) and the Canadian *Standards for special education: Essential components of educational programming for students with autism spectrum disorders* (2004) are set up as best practices. None of these documents has been incorporated into special education code, giving the schools a great deal of latitude on how to operate a program for children with ASD diagnosis.

Common essential program components as outlined by New Jersey, New York and Alberta, Canada are as follows:

1. Staff knowledgeable about ASD.
2. Curriculum specific to addressing the areas of deficit for students with ASD.
3. Specialized instructional methods.
4. Family involvement.

Although the common, essential program components are more general, they are consistent with the features of the specific interventions noted earlier. The intervention features can be incorporated as part of the instructional environment, the methodology and the educational activities in order to implement an educationally sound program. Appendix C outlines this researcher's summary of recommended program components based on the literature reviewed.

The National Association of State Directors of Special Education (NASDSE) in cooperation with the U.S. Department of Education's Office of Special Education Programs (OSEP) conducted a survey of state education agencies (SEA) in July, 2006 in order to identify states' approaches to serving the needs of the growing population of students with ASD (Muller, 2006). All of the forty-six SEA's responding reported, "one or more programs and/or activities in place relating specifically to ASD's" (Muller, 2006, p.7). A number of barriers to providing services to students with ASD were identified; the most common was a shortage of educational staff that is experienced in working with this population. Other barriers that were identified included the lack of agreement among ASD

professionals about research-based interventions, lack of funding to provide professional development and technical assistance to school districts, insufficient programs to meet the needs of this rapidly growing group, and the challenge of adequately addressing the needs of this diverse group of students within a public school context (Muller, 2006).

In summary, state education agencies, as a group, have acknowledged that students with ASD diagnosis are a growing population that is presently under-serviced and inappropriately serviced. Comprehensive programs that address the needs of this population need to be conceptualized, designed and implemented effectively within a public school structure.

Programs for children with ASD within a regular education structure will become the norm rather than the exception; this is evidenced by the recent grant opportunity by the State of New Jersey, charging districts with the development and implementation of such programs. (New Jersey Department of Education, 2006)) Further, education code mandates that children be educated in the least restrictive environment and that they have opportunity to relate with non-disabled peers; for children with ASD, this is not only an entitlement, but also a necessity. The active role that parents must play in the education of students with ASD means that relationships must be established with parents and that training opportunities offered to them; this is a much more difficult task to accomplish if the parent must travel distances to get to his or her child's school, must rely on public transportation, has a language barrier or a financial hardship.

The role of the parent and the function of education are changing in the treatment of students with ASD diagnosis. Teachers must become knowledgeable about disability aspects as they relate to ASD, be able to implement specialized methodology, actively collect data on student progress, and effectively coordinate additional classroom personnel. The role of the school psychologist will also change in the delivery of services to students with ASD diagnosis. School psychologists, with their background in psychology and education, are consequently in the best position to guide this transition within education by developing programs, coordinating their implementation, working with students, parents, administration and staff and overall becoming agents of change.

Because the implementation of a program for children with ASD is in essence a paradigm shift for education, i.e., the provision of services that encompass all aspects of a child's life, and the perception of education as treatment, there are a number of internal barriers that must be identified and a plan developed to overcome them. Out-of-district, specialized schools can offer some guidance in terms of what has been successful, but many of the challenges will be identified only through a self-analysis process.

Research Questions

In conducting an analysis of the implementation of an Autism program within a public school district, the goal of this study was to answer the following questions: 1. What process was used in the development and implementation of a

new and highly specialized program for children with ASD diagnosis or associated behaviors, within a public school structure which primarily services a low SES, culturally diverse population that is predominantly Spanish speaking? 2. What were the themes and barriers encountered by different groups in the creation and implementation of an educational program for this specific student population? 3. Was the program successful in its efforts to provide appropriate educational services to children with ASD diagnosis or associated behaviors?

Expected Outcomes

Process

It was anticipated that many moments of insight resulting from direct experiences would be identified. These moments would prove to be turning points in terms of defining how services were delivered to the children or how specific issues would be addressed in the future.

Barriers/Themes

It was anticipated that the logistics of providing training to the staff would emerge as a barrier, as also would communication with the parents as it related to a language barrier.

It was anticipated that treatment fidelity would emerge as a barrier to successful implementation of the program as would adequate clinical supervision.

Program Outcomes

It was anticipated that quantitative and qualitative growth would be evident in the children and that it would be noticeable across settings. It was anticipated that the majority of the individuals involved with the program either as providers of service or as recipient of service (parents and children) would define the program as successful.

Chapter 2

Method

Research Overview

Stringer (2004) notes that research is often irrelevant when applied to the daily practices of schools. This statement is even more relevant when one attempts to apply research to public schools located in low socio-economic, minority populated and language diverse areas. Action oriented research is a viable way to research and implement meaningful change within a public school structure (Stringer, 2004; Marzano, 2003; Sagor, 2000). Action oriented research allows for *transformational understanding* (Stringer, 2004) during which the individuals involved can "use their experience and local wisdom to work systematically through a process of investigation to acquire deeper, and more effective understandings that enable them to develop workable solutions to the problems they investigate" (Stringer, 2004, p.v).

In conducting action research on the Elizabeth Board of Education Autism Program (originally named the Verbal Behavior Program), this researcher gathered and analyzed data with the intent to implement meaningful change in order to facilitate program improvement and growth. The researcher, in her role as District Behaviorist was responsible for recommending that the program be implemented, for developing program content, for coordinating training of involved staff, and for overseeing the program components implemented in the Verbal Behavior Preschool Disabled (VB PSD) model class and in the three other

components classrooms. Additionally, as case manager to the VB PSD model class, this researcher was responsible for IEP implementation, and consequently for overseeing the application of ABA and VB methodology. In her dual roles as District Behaviorist and case manager to the model class, the researcher had direct experience with the program's development and implementation, and guided the research process in order to address the research questions.

Procedures and Measures

All documents pertaining to the development and implementation of the Autism Program (originally the Verbal Behavior Program – model class and three components classes) and specifically the model Verbal Behavior Preschool Disabilities (VB PSD) class were reviewed by the researcher. This covered the period of November 2004 through December 2006.

These documents included:

1. Program surveys for the VB PSD model class that were completed by teacher, classroom assistants, case manager, speech-language specialist, and parents, and conducted in June 2006,
2. Elizabeth Board of Education Verbal Behavior Program Evaluation document dated July 2006,
3. Elizabeth Board of Education New Jersey Department of Education Autism Grant Application dated December 2006,

4. VB PSD model class case manager's notes, agenda books and emails as related to teacher meetings, paraprofessional meetings, parent meetings and classroom observations,
5. District Behaviorist's notes, agenda books and e-mails relevant to the Verbal Behavior program development and implementation,
6. Individualized Educational Programs (IEPs) and the Assessment of Basic Language and Learning Skills (ABLLS) documents for the eight (8) students in the model VB PSD class.

A chronology of events was developed in order to structure recall of events and support the development of themes. In reviewing the program documents the researcher identified themes and barriers as they pertained to three different perspectives: Staff (teacher, classroom assistant, speech and language specialist, and case manager), Administration (building administrator, special services supervisor, District Behaviorist) and Parents.

Specific Measures of Student Progress

The ABLLS, developed by Partington and Sundberg (1998), can be used as an assessment tool (criterion referenced), curriculum guide, and skills-tracking system in order to guide educational programs for children with autism and other developmental disabilities. The ABLLS assesses the following twenty-six (26) areas: cooperation/ reinforcer effectiveness, visual performance, receptive language, imitation, vocal imitation, requests, labeling, intraverbals, spontaneous

vocalizations, syntax and grammar, play and leisure, social interaction, group interaction, following class routines, generalized responding, reading skills, math skills, writing skills, spelling, dressing skills, eating skills, grooming and toileting skills.

The ABLLS completed in November 2005 and May 2006 for six (6) of the eight (8) children in the VB PSD model class were compared for growth. Two of the children began the program after January and only one ABLLS was completed for them. Initially it was planned that a percentage value would be assigned to each of the areas of the ABLLS, in terms of mastered skills. It was hoped that this would have allowed for a more quantifiable comparison between the November 2005 and the May 2006 ABLLS. However, this did not prove to be a meaningful way to compare the pre and post ABLLS because it did not properly represent the child's functioning across the areas measured. Instead, the ABLLS were analyzed for skills that were expanded upon and for new skills acquired. An expanded skill was defined as a skill that the child had already exhibited, but with which the child was able to show gains in sophistication of use. For example if a child was able to identify a picture when he or she was presented with two choices at pre-program assessment and then was able to identify the picture when he or she was presented with three choices at post-program assessment, it was considered an expanded skill.

Although the ABLLS assesses skills across twenty-six (26) areas, only the first nine areas were completed for the students. These were:

Cooperation/Reinforcer Effectiveness- utilizing reinforcers to increase child's interest to cooperate, and then gradually decreasing the reinforcers.

Visual Performance- attending to and manipulating visual stimuli.

Receptive Language- following simple directions.

Motor Imitation- imitating actions.

Vocal Imitation- echoing sounds, words.

Requests- asking for reinforcers, items, activities.

Labeling- naming reinforcers, items.

Intraverbals- referring to what is not present, i.e.: talking about the zoo while in the class.

Spontaneous Vocalization- being able spontaneously to interact verbally.

The Individualized Educational Programs (IEP) as written for September 2005 and September 2006 were compared for qualitative growth. The IEP's present a profile of the students' strengths and weaknesses and outline goals for addressing the areas of deficit. Each IEP specifically outlined the educational program in terms of how the program was to be implemented.

Initially it was planned to compare pre and post IEP's for the percentage of goals achieved. However, it was not possible to compare IEP's for percentage of IEP goals achieved, because the pre and post IEP's were written by different individuals; these individuals did not utilize the same format. Further, pre-program IEP goals appeared to be generic because they identified goals to be

worked on that were typical for preschoolers. Post-program IEP's focused on each child's progress within an ABLLS format and did not address percentage of goals obtained. In order to contrast the IEP's using a more structured format, specific areas associated with global development were identified for review, with specific behaviors defining the areas. IEP's were compared for behaviors present at pre and post program. Specific areas that were compared included cognitive skills/pre-academics, communication skills, appropriate behaviors, motor production, interaction/affective responses and play skills. Appendix D lists the areas and the behaviors associated with each of the areas used for comparison purposes.

Chapter 3

Results

Research Questions

The goal in conducting an action based study of the EBOE Autism Program was to answer three questions: 1.What process was used in the development and implementation of a new and highly specialized program for children with ASD diagnosis within a public school structure which primarily services a low SES, culturally diverse population that is predominantly Spanish speaking? 2. What were the themes and barriers encountered by different groups in the creation and implementation of an educational program for this specific student population? 3. Was the program successful in its efforts to provide appropriate educational services to children with ASD diagnosis and associated behaviors?

Question One

What process was used in the development and implementation of a new and highly specialized program for children with ASD diagnosis, within a public school structure which primarily services a low SES, culturally diverse population that is predominantly Spanish speaking?

The following documents were reviewed and cross-referenced for information pertaining to the development and implementation of the Autism Program: District Behaviorist's agenda books dated November 1, 2004 through

December 31, 2006; District Behaviorist's notebook logs dated November 1, 2004 through December 31, 2006; emails to and from the District Behaviorist as pertaining to the Verbal Behavior (VB) and Autism Programs dated September 2005 through December 2006; Verbal Behavior Preschool Disabled (VB PSD) model class case manager's logs for the academic year 2005 – 2006; class files for the VB PSD model class for the academic year 2005-2006; VB Program evaluation dated July 2006; VB PSD model class staff and parent surveys conducted in June 2006, and NJDOE Autism Grant application dated December 2006.

The review of these documents enabled a chronicling of the conceptualization and implementation of the EBOE Autism Program. The plan for the start of the 2005-2006 academic year was to open one model Verbal Behavior Preschool Disabled (VB PSD) class, thus allowing for close monitoring. The emergence of three unanticipated components classes created the need to monitor four classes across the district, and expand services to more parents. What was to be *one* model class emerged as the Verbal Behavior Program for the 2005-2006 academic year with the addition of three components classes. The need to coordinate services across these four classes further served to establish a program identity. The Verbal Behavior Program was renamed the Autism Program in September 2006, when six (6) classrooms were officially designated, as described in New Jersey Special Education Code, as *autistic class type* classrooms, with uniform services being offered to a specifically identified

population. Four distinct phases emerged as part of the process of becoming the Autism Program: 1) a needs identification phase, 2) a development phase, 3) an implementation phase and 4) a growth phase.

Needs identification phase - November, 2004 through May 2005

The needs identification phase was characterized by the mindset that a program was needed and that its implementation was viable; this viability was brought about by the presence of a vehicle to identify the district's inability to address the educational needs of students with ASD diagnosis and the knowledge of a successful model. During this time period, the primary influences that created the realization of the need to develop an in-district educational program for students diagnosed with ASD could be traced to three major factors: 1) the creation of the position of District Behaviorist, 2) the district's inability to provide adequate services for students diagnosed with ASD, and 3) an increased awareness of effective programming to meet the needs of students with ASD diagnosis.

Creation of the Position of District Behaviorist.

In September 2004 a new position, District Behaviorist, was created within the Elizabeth School District Division of Special Services. Although not clearly defined, the general function of this position was to address the needs of classified students with behavioral difficulties by consulting with their case

managers and teachers. Thirty-six percent (36%) of the referrals to the District Behaviorist involved students with ASD diagnosis or related behaviors. The difficulties identified in these referrals centered on the need for additional training of staff, the need for development of appropriate interventions and accommodations to help these students, and the need for assistance in the implementation of these interventions and accommodations.

The District's Inability to Provide Adequate Services for Students with ASD.

The district had found it necessary to contract with private agencies increasingly to provide specialized services to students diagnosed with ASD. Specifically, two of the students receiving these services had previously attended out-of-district schools, but their attendance had been discontinued because of the inability of those schools to provide adequate services. It became evident that more students were being identified as requiring services for which neither the district's special education classes, nor out-of-district schools' programs seemed appropriate. During this time period, parents and staff were becoming increasingly more verbal about the lack of adequate specialized programming for children diagnosed with ASD.

An Increased Awareness of Effective Programming for Meeting the Needs of Students Diagnosed with ASD.

In an effort to expand the staff's knowledge of how to effectively address the needs of students diagnosed with ASD, the District Behaviorist and other district staff attended a workshop on Verbal Behavior offered by the Verbal Behavior Network (VBN), an offshoot of the organization Parents of Autistic Children (POAC). POAC had successfully assisted a school district in New Jersey with the implementation of an effective in-district educational program for children diagnosed with ASD.

The information acquired at the VBN training sessions, the knowledge of a successful methodology implemented within a public school structure and the increasing awareness of the district's need to service students with diagnosis of ASD adequately served to set the stage for the next phase.

Development phase - May, 2005 through August 2005

The end of the academic year offered a natural opportunity for planning and for the possibility for change; this coupled with an identified need and a viable way to address this need ushered in the development phase. During this time period, events in the development of the in-district educational program for students diagnosed with ASD were shaped by six major influences: 1) an increasing awareness of students' needs and the district's inability to meet these needs, 2) a growing mandate to comply with New Jersey Special Education Code,

3) an awareness of viable public school ASD service models, 4) budget and educational cost considerations, 5) staff willingness to take action, and 6) training opportunities.

An Increasing Awareness of Students' Needs and the District's Lack of Ability to Meet These Needs.

The creation of the District Behaviorist position had provided a professional resource to staff that consequently increased staff awareness of ASD and resulted in an increase in the number of identified students. The work of the District Behaviorist also served to identify more specifically the programmatic needs of students diagnosed with ASD. With the needs of these students more clearly specified, it became increasingly more apparent to school staff that the educational needs of these students were not being adequately addressed either in the out-of-district private school placements or in the district's education programs.

A Growing Mandate to Comply with New Jersey Special Education Code.

New Jersey Special Education Code mandates that students be educated in the least restrictive environment (LRE) and with maximum opportunity for interaction with non-disabled peers. In attempting to comply with the special education code, the numbers of students being placed outside of the district

decreased, thereby increasing the need for more specialized and specific programming for ASD students within the district.

An Awareness of Viable Public School ASD Service Models.

The district staff's attendance at the VBN training along with subsequent contacts with POAC to identify community resources for students with ASD, and a visit to another school district's implementation of a Verbal Behavior class, combined to establish a mind set among district staff that program implementation was a viable and possible cost effective option for the district.

Budget and Cost Considerations.

The high cost of out-of-district educational programs further placed a limit on the number of students that could be placed in out-of-district programs; this was a factor that also contributed to the increased number of students diagnosed with ASD within district schools who required more specialized and specific educational programming. Consequently the cost of implementing an in-district program was explored. The expense of implementing an in-district program seemed to be financially viable because the cost to train staff and provide consultation services proved to be significantly less than the cost of placing one student in an out-of-district program.

Staff Willingness to Take Action.

A special education teacher providing services to preschool students with disabilities had a number of students diagnosed with ASD in her class. Her experiences with these students convinced her of the need for a specialized program to address their educational needs. Very much aware of the district's needs, this teacher was agreeable to becoming the teacher for a model class if one were to be created. The plan for a within-district class was to have the class housed in a school building that was historically supportive of special education. The speech/language therapist housed in the selected building had attended the VBN training and also appreciated the need for specialized services for students diagnosed with ASD. Among this core of dedicated and aware staff, there was a general consensus that the district could do better than anything that was being done currently for students diagnosed with ASD within the district, and also better than the services that were being provided by out-of-district school placements. Belief in this perspective led the District Behaviorist and her immediate supervisor to a presentation to the Director of the Division of Special Services of a viable and cost effective plan that would implement a highly specialized in-district program to address the educational needs of students with ASD diagnosis.

Training Opportunities.

The Verbal Behavior Network (VBN) was available to provide staff training during summer months, which allowed for the staff to be prepared for the

start of the next academic year. Training was provided to selected staff of the Division of Special Services, and one general training session was offered to include administrators and interested Child Study Team (CST) staff. Staff selected for training included, the teacher who had volunteered for the model class, other special education teachers identified as potential teachers for future classes, CST members who would be providing case management to the model class and possibly to future classes, and speech/language therapists assigned to the model class and possibly to future classes. The intent at this time was not only to provide training, but also to build awareness and capacity across the district.

Needs awareness and knowledge of a viable model to address needs, administrative support, and staff training were all part of what had been a systematic and predictable process. Although experienced in the implementation of a program within a public school structure, the demographics of the Elizabeth School District made this a unique experience for the agency providing training and consultation to the district. For the district staff, translating vision and training into implementation proved challenging.

Implementation phase – September 2005 through August 2006

The Verbal Behavior Preschool Disabled (VB PSD) model class opened in September, 2005. Although labeled as a class that would specifically service children with ASD diagnosis, it was a difficult transition; not all the necessary materials were available and more children were placed in the class than were initially anticipated. Additionally, other children were identified during the summer as needing ASD specific services, therefore, three Learning/Language Disabilities (LLD) special education classes were designated as components classes that offered some specialized services to some of the ASD diagnosed students in these classes. The increase in the numbers of students to be served, the additional staff that would need support and the need to coordinate all aspects of service delivery were unanticipated challenges.

This phase was highlighted by the emergence of unanticipated events, the development of the program conceptualization and identity, and the actual delivery of services, all of which were influenced by eight major needs: 1) the need for the provision of consultation services and increased support to the model class, 2) the need to include components classes, 3) the need for on-going training to program staff and for initial training to unanticipated groups of district staff, 4) the need to conceptualize the implementation of a multi-service highly specialized program within a public school structure, 5) the need to coordinate services

provided by the program and the emergence of a separate identity as a program, 6) the need to deliver more complex services to non-English speaking parents, 7) the need for additional planning in order to address significant program growth, and 8) the need to document program efficacy and enhance credibility.

The Need for the Provision of Consultation Services and Increased Support to the Model Class.

Consultation services were provided to the VB PSD model class by VBN. These services were provided approximately once per month between September and December, and an additional consultation was provided in March. The model class required additional assistance during this time in order to implement methodology and effectively address parental concerns, thus the case manager to the class complimented the consultations through regular visits to the class during the consultation period between September and December. The case manager visited the class at least once per week, and also met with the teacher and the classroom assistants at least once per week respectively, between December and June. The focus of the class visits and meetings was to provide training, to offer clinical support for the application of methodology, to help staff in their efforts to address parent's concerns, and to address program implementation needs specific to the district.

The Need for the Inclusion of Components Classes.

Three other classes in three separate buildings were included as components classes. All of these classes had one or more students who had been diagnosed with ASD or who exhibited behaviors associated with ASD. In each of these classes, the teacher and direct service staff had gone through the VB training, enabling them to be prepared to provide support to these students. The purpose in establishing these component classes was to enable the district to provide immediate specialized services to a larger number of students, to begin to build the staff's capacity for educating students who would be transitioning out of the preschool model class and to prepare staff to provide services for students who would be identified in the future. Consequently these three component classrooms began to implement some form of Verbal Behavior methodology and received support from the District Behaviorist. Two of these classes received approximately four hours of consultation from VBN and one class received approximately thirty (30) hours. Teachers and speech and language therapists servicing these classrooms attended VBN training sessions offered during the 2005 -2006 academic year, and classroom paraprofessionals attended the four in-district training sessions provided by the District Behaviorist. Parents of students in these classrooms were invited to attend the evening parent training sessions, which created some initial confusion because not all of the children in these classrooms had ASD diagnoses or presented with ASD-like behaviors. This

further highlighted the need to coordinate services among the model and component classes.

The Need for On-going Training to Program Staff and Initial Training to Unanticipated Groups of District Staff.

Specific training was provided to program staff through VBN in the summer, and three additional training sessions were offered during the year. However, the need to provide training to classroom paraprofessionals and other teachers providing services to the model class and components classes was also identified during the implementation phase. Consequently, one general training session was offered to special teachers (Music, Art, Physical Education, and World Languages) and four formal didactic sessions were provided to the model and components classrooms' paraprofessionals. Additionally, informal training sessions were provided on a per need basis to the paraprofessionals in the model class and components classes.

The Need to Conceptualize the Implementation of a Multi-Service Highly Specialized Program Within a Public School Structure.

Although the teacher for the model class and the teachers for the component classes had attended the VBN training, there was a great deal of uncertainty about how Verbal Behavior methodology should be implemented,

how a classroom should look, and the best way to collect data with limited staff. As the academic year progressed, it became clear that this endeavor was very different from simply adding another special education class. In order to better conceptualize the implementation of the methodology within the classrooms, the program staff visited a school in a neighboring state that was implementing Verbal Behavior methodology within an early childhood early intervention setting. The demographics for this class were similar to the district and to the model class. The District Behaviorist also reached out to two neighboring districts that were implementing or considering implementation of an autism program utilizing Verbal Behavior. This was done in order possibly to establish an additional support structure, and also to obtain information about how implementation issues were being addressed or planned for in those districts. Additionally, frequent contact was maintained with VBN staff in order to clarify and obtain information about methodology implementation.

The Need to Coordinate Services Provided by the Program and Emergence of a Separate Identity as a Program.

The emergence of the components classes expanded the numbers of staff involved across the district, and the numbers of students and parents receiving services. However, not all of the children in the components classrooms had ASD diagnoses or exhibited behaviors typically associated with an ASD diagnosis. Initially, the staff member coordinating the parent training and parent support

groups addressed all the parents; the staff member was under the impression that all of the children had ASD diagnosis. This created parental confusion and distress. It became evident that communication across all the individuals involved, teachers, therapists and support staff, was essential. This was a shift in the way that special education services were typically coordinated. It became evident that staff working with parents needed to be knowledgeable about ASD and VB, needed to be familiar with the students, and needed to be in frequent contact with the teachers and the case managers.

Meetings with case managers, service providers and teachers were implemented to disseminate information, identify problems, brainstorm, provide support and to maintain cohesion. A sense of camaraderie and separate program identity began to emerge among staff members as a result of attending meetings and attending training sessions together; they were part of a new and different program, and facing and meeting the challenges associated with a new endeavor.

The Need to Deliver More Complex Services to Non-English Speaking Parents.

The staff was experienced in working with culturally and linguistically diverse parents; however, the amount of interaction with parents increased, as did the complexity of the information to be communicated to parents. This presented new challenges to the staff when dealing with parents, especially non-English speaking parents. The traditional training format that had been appropriate for

another district in which the parent workshop presenter had previously provided training did not prove successful in the district. Large group parent training sessions had to be modified to accommodate translation of content; this made the sessions longer due to the additional time required for translating, and also proved awkward for the English speaking parents. The material proved cumbersome to translate and the continuity of the training session was lost. Additionally, the needs of the parents seemed to have been different from those of the district where the presenter had previously conducted training. Based on feedback from the presenter, the program staff and the parents, the format for the parent training sessions was changed for the last session, and positive feedback was received.

The Need for Planning in Order to Address Significant Program Growth.

Program implementation identified a service, and consequently more students needing this service were identified. The opening of a new school in the district for the 2006-2007 academic year offered the opportunity for three classes to be added to the program. Based on need and space availability, the program expanded from a model class and three components classrooms to six Autism Program classrooms; each class was officially designated as an *autistic class type*, the designation by New Jersey Special Education Code that allowed for a reduced ratio of student to staff . The model class remained in the original building as a preschool disabilities – autistic specific class type. Two autistic class type classes opened in one of the buildings that had housed a components class, and three

autistic class type classes opened in the new building. One of the classrooms that had been an original components class did not go on to become an autistic class type. This class had originally serviced only one child with the ASD diagnosis, and significant difficulties in program conceptualization and implementation of methodology had been encountered. A second components class transferred to the new building, becoming an autistic class type class, because the original building in which it was housed closed for renovations. The presence of the components classes assisted in the implementation of the autistic class types, because some staff were already identified and partially trained, as well as experienced to some degree, in program implementation. The principal of the new building had been the principal in one of the buildings housing a components class, and was supportive of the overall program; this facilitated the opening of three autistic class type classrooms in the new building.

The Need to Document Program Efficacy and Enhance Credibility.

In order to quantify the success of the program, surveys were developed and completed in June 2006 by parents, staff and administration. Additionally, individual meetings were held with each of the building administrators where the model class and the components classes were housed. This assisted in obtaining feedback regarding program strengths and weaknesses, and elicited recommendations for program improvement. The surveys sought to obtain

feedback about student progress, generalization of skills, staff perception of students with ASD diagnosis, parent's needs as they related to training, communication with staff, and program recommendations. A program assessment [review] was completed in July 2006 by the District Behaviorist. This document summarized the results of the surveys and all the activities, trainings and services implemented during the 2005-2006 academic year. It also served to identify areas of strengths and areas to be addressed in order to improve delivery of services and maintain credibility.

Although initially well planned for, the implementation phase of a program servicing children with ASD diagnosis proved challenging for staff, even in an area familiar to the staff, i.e., working with non-English speaking parents. Unanticipated events and uncertainty about how to implement methodology were stressors that emerged. The staff's ability to resolve problems evolved as learning experiences that would prove beneficial to the growth of the program.

Growth phase – September 2006 through December 2006

In September 2006, with the opening of six autistic class type classrooms specifically implementing ABA VB methodology, the Verbal Behavior Program officially became the Autism Program. Services across the six (6) classes were coordinated and the parent program was expanded to include at-home services.

During this time period an increase in staff confidence was evident and there was an expansion of services; however, issues present in the other phases resurfaced during this phase and appeared to evolve as on-going programmatic issues. Events which defined this phase are best categorized into four areas: 1) maintaining identity as a program and continuing to support program staff, 2) expanding the parent component in order to provide comprehensive services to parents, 3) continuing to provide staff training in order to deliver services and insure treatment fidelity, and 4) continuing to increase awareness of ASD issues within the district.

Maintaining Identity as a Program and Continuing to Provide Support to Program Staff.

In order to implement a mechanism to encourage communication among program staff, and to maintain staff cohesion and program identity, regular staff meetings were implemented. A schedule was developed to conduct monthly meetings of the program staff and monthly meetings for case managers. The schedule allowed the staff to plan accordingly so that they could attend the meetings. The purpose of these meetings was to disseminate information, offer informal training, identify and solve problems and share implementation ideas. An Autism Program staff contact list was developed and distributed to program staff, to other staff providing services to the Autism Program students, and to administrators.

Expanding the Parent Component in Order to Provide Comprehensive Services to Parents.

A new position, ABA Therapist, was created in September 2006, solely for the purposes of providing at-home parent training. The need for more specific parent training had become apparent during the implementation phase. In order to provide services effectively to the parents, the ABA therapist also provided clinical support to the teachers, so that they would have accurate knowledge of the children and better coordinate the home and school services. A more formalized parent training component was developed to include didactic training sessions; these were held separately in Spanish and English. The topics to be provided during these sessions were identified via a parent survey conducted at the beginning of the academic year. A parent support group was scheduled to be implemented once per month and was offered separately, in Spanish and in English. Although conceptualized in the fall of the 2006 – 2007 academic year, the didactic training sessions and the support groups were not implemented until January 2007. The three components relating to parents, at-home training, didactic sessions and support groups, were coordinated.

Continuing to Provide Staff Training in Order to Deliver Services and Insure Treatment Fidelity.

The district continued to contract with the Verbal Behavior Network (VBN) to provide consultation services to the six (6) autistic type classes. Consultants from VBN visited each of the classes once per month, met with program supervisor and clinical support staff before and after each visit, and provided the staff with a written report. The pre-consultation meetings allowed the consultants to have a better idea of the needs of each classroom. The post-consultation meetings offered immediate feedback about the methodological implementation strengths and weaknesses present in each of the classrooms. The written report offered the teachers and the support staff guidelines concerning points to be addressed during the month in order to insure fidelity of application of VB methodology. A VBN supervisor visited the classes in December to provide additional feedback regarding implementation of VB methodology. A district check list was developed in order to ensure that identified program components were being implemented (See Appendix G). Two didactic training sessions were provided for the classroom paraprofessionals, and two didactic training sessions were provided for teachers providing specials (Art, Music, Physical Education and World Languages) to students in the Autism Program. Two training sessions were offered to the teachers in the program. These sessions were designed and presented by two of the teachers in the program and

specifically addressed ways to implement the program effectively within the district.

Continuing to Increase Awareness of ASD Issues within the District.

Increasing awareness of ASD issues within the district evolved as a programmatic role for some of the program staff. Autism Program staff provided consultation to special education and regular education staff on developing and implementing classroom modifications for students with ASD diagnosis and students with ASD related behavioral difficulties. Besides offering a direct service in providing ASD information and technique implementation, the Autism Program staff's involvement with special education and regular education staff served to alleviate anxiety and increase level of confidence for the special and regular education staff and consequently increase the number of opportunities for students diagnosed with ASD to interact with typically developing peers and non-ASD peers. Lessons learned during the implementation phase seemed to have facilitated the growth phase and allowed for careful program expansion.

Question One Summary

A definite process was evident in the development and implementation of a program for children with ASD diagnosis that is best defined by the presence of four phases: 1) needs identification phase, 2) development phase, 3) implementation phase and 4) growth phase. Although the initial plan

was to implement *one* model class, a need to provide services to more students precipitated the creation of components classes as well. The need to coordinate services across the model and component classrooms created a program identity leading to the emergence of the Verbal Behavior Program and consequently the official designation as an Autism Program.

Question Two

What were the themes and barriers encountered by different groups in the creation and implementation of an educational program for this specific student population?

Specific groups –administration, staff and parents- and themes and barriers as viewed from each of the specific group's perspective were identified through a review of the available program documents. Administrative themes were as follows: Who is the population to be served? How should consultation support services be managed? How should training be provided? How should clinical support be incorporated? How should such a program function within a district, a division and a specific building?

Staff themes were as follows: How should the program be implemented within the district? How should paraprofessionals be supervised? How should data be collected within the class?

Themes as they related to parents were as follows: How should trust be established? How should cultural issues be addressed? How should the issue of limited English communication be addressed?

Finally a general theme which will be labeled the *human component* emerged in the review of the program documents. The human component speaks to the affective process which staff underwent as part of new program implementation; these included the fears, the professional self-doubts, the frustrations, and the positive transformations that occurred as part of a significant change process.

Themes and barriers

Administrative

The implementation of an Autism Program presented as a paradigm shift within education, consequently the administrative role evolved as one of implementing change within classrooms and within the district as a whole. A new concept, clinical support, emerged as a pressing concern because this was the only way to ensure that methodology would be implemented.

Who is the population to be served?

Establishing a program seemed to have created awareness of the ASD diagnosis as well as awareness of district services available for dealing with the educational needs of children diagnosed with ASD. Consequently it became more

likely to identify students with specialized needs, but ones who did not necessarily meet ASD criteria. As a result, there was a need to clarify the specific student population to be serviced by the program, the student population to be served by other in district special education programs or in out-of-district schools, and the student population to be served by the regular education program.

Defining the population to be serviced by the program was a difficult task complicated by the spectrum nature of the ASD diagnosis, the apparent over diagnosis of ASD, the misdiagnosis of ASD for some students, and lack of ASD diagnosis for other students. Limited space within the model class, physicians' prescriptions requesting an *Autism Program*, and parent advocates and attorneys all served to further blur the definition of the population to be served.

How should consultation support services be managed?

The delivery of consultation services to the program was changed during the second year – growth phase. During the first year the consultation format was not as structured and was guided by the consultant. During the second year, the district changed the format to one that was guided by the district; the consultants were notified of each teacher's needs prior to the consultation date and the day of their visits, the consultants were briefed and debriefed by clinical support and/or administration. The consultants submitted a written report on the day of the visit. Consultation services to the program were initially impeded by specifics of the

district's administrative policies. It was important for the consultants to be aware of how the district functioned, in order to recommend a delivery of services that was viable within the existing administrative structure.

Other agencies providing direct services to district students with ASD diagnosis had not been monitored prior to the implementation of the program. In-district program implementation increased district staff's knowledge of appropriate delivery of services, and the monitoring of these services provided by outside agencies increased, leading to the termination of the services of some of the agencies not providing adequate programs.

How should staff training be provided?

Three of the initial training sessions designed for professional staff took place in the summer prior to the start of the program. Staff attendance at the training sessions was compensated by salary if they were summer employees or if they were not employed in the summer, they received continuing education hours. Training during the year was more difficult to set up because district and state testing dates had to be accounted for, and class coverage had to be provided for the teachers when training occurred during a school day. Having involved and supportive building administrators, as well as a relationship with the agency providing the training, greatly facilitated the delivery of staff training.

Training for teachers of special subjects (Art, Music, Physical Education and World Languages) was provided after school and teachers received

continuing education hours. The state and the district mandate that professional staff must accumulate, on average, twenty (20) hours of professional development hours per year, thus providing a vehicle for staff compensation.

The training of paraprofessional staff was a problem initially because there was no vehicle to provide this training during the day or after school. Paraprofessionals are not required to obtain professional development hours and there was no budget to compensate them for their attendance at after school workshops. During the school day there was no staff available to cover their absences from the class. The teachers agreed to conduct their classes with only one paraprofessional during designated days, which allowed for half-day training sessions to take place throughout the program. Half of the paraprofessionals attended in the morning and half attended in the afternoon. This training schedule also allowed for paraprofessionals in the different buildings to meet each other, and to develop a sense of program identity.

How should clinical support be incorporated into the program?

The concept of providing clinical support evolved out of the need to ensure the effective delivery of services; this required an increase in the visits to the classes and a more direct, hands on approach to supervision. This new approach was a change in the way supervision had been previously provided. Clinical support served to identify problems in the implementation of the program, helped to correct or modify services, provided modeling, provided

emotional and psychological support and identified future needs for training and services.

Within the administrative structure of the district there was no mechanism for providing this clinical support and because this was not a traditional concept within the district, it evolved gradually, later in the implementation of the program, and not as an officially recognized entity. Clinical supervision was provided by the District Behaviorist, but this position was not an administrative position. However, the experience and knowledge as a school psychologist which the District Behaviorist brought to the position, coupled with specific training on ASD and VB allowed her to provide the needed clinical supervision and support to the staff.

How should the program function within a district, a division and a specific building?

During the implementation of the program, a number of events occurred that were specific to the district. Being an Abbott district meant that staff had to be *highly qualified,* i.e., meet specific certification requirements. The deadline for the district to meet the requirement for all staff to be *highly qualified* occurred during the implementation of the program; not all staff in the program met this requirement, causing some temporary staff changes, specifically paraprofessionals.

Three of the new classes opened in a new building designated as a *lottery school* – students attending this school were chosen via a lottery system. This opposed the idea of placing students based on need for the specific special education class type; thus the idea of the lottery school process had to be revised to address the adequate placement of students in the program. Busing issues within one building caused early arrival to school and delay in pick up for the students. For the students in regular education this was handled by simply adding staff to cover this time period. For the students in the Autism Program this became more difficult because the regular education staff did not have the experience or the ability to supervise the students properly within this short time frame. Also the staff to student ratio had to be higher and the location for the students to wait had to be adequate; a large number of regular education students could wait in the cafeteria with a few teachers to supervise them until the bus arrived. Arrangements had to be made for which there had been no planning or budget allocation.

Because the program was part of the Division of Special Services, it functioned within this division. The nature of the program requirements, however, made each of the classes somewhat different from the *typical* special education classroom. Autism Program classrooms required additional modifications in comparison with other special education classes, a different way of developing IEP's, more stringent measures of student growth, and increased accountability. Although teachers needed to receive the information provided to the other special

education teachers, they also required information specific to the implementation of the VB methodology guiding the program; in addition, they needed knowledge and support about guidelines being developed by the Division regarding the Autism Program.

A gradual change had to be effected within the *culture* of some of the buildings in order for building staff to accept the presence of more impaired students. This required establishing and maintaining relationships with building administration and staff, providing them with information and making them aware that they were part of a new and exciting endeavor.

Staff

The themes and barriers for the staff centered on the frequently verbalized need to conceptualize the implementation of the program; for teachers, there was the need to know specifically *how* to effect the necessary changes in their classroom.

How should the program be implemented within the district?

Although the teachers had gone through the training, there was a frequent desire and request (from paraprofessionals as well) to observe other places where similar programs were being implemented. Such visits did not occur, because classroom coverage during teacher absences was difficult, and visits to the other

districts were difficult to arrange. Increased accountability, increased interaction with students, increased interaction with parents, and increased supervision of staff and children evolved as frequent concerns of classroom staff. For the model class, weekly meetings between the case manager and the teacher and additional meetings that included the paraprofessionals helped the staff to conceptualize how the educational services needed to be delivered. For the components classes, contact between the District Behaviorist, teachers and case managers, in order to clarify points, to offer guidance and to address problems, assisted the staff in their understanding and better conceptualization of how to implement ABA and VB methodology.

How should paraprofessionals be supervised?

The supervision of paraprofessionals became an urgent concern because teachers needed increased assistance with the implementation of specific ABA and VB techniques (running specific behavior protocols, etc.) and with data collection. This became a pressing issue because the teachers had not received formalized training in the training and supervision of paraprofessionals for these specific tasks; in addition, they lacked the history of providing this type of more active supervision. This issue was addressed by providing feedback to the teachers about how to handle staff concerns and by providing training to the paraprofessionals about how to assist with the teaching techniques and how to work under the guidance of the teachers.

How should data be collected within the class?

The issue of data collection emerged as the most pressing concern, and elicited the greatest resistance from teachers across the program, model and components classes. In attempting to ease tension, data collection was modified and simplified from the original, expected format. At the beginning of program implementation, data collection in the model class involved sheets of papers taped to the blackboard where they were easily accessible to all staff for recording the requested information. The requirements for data collection for the components classes were minimized so that only data needed for behavior plans were required. Simplifying the process of data collection allowed for the lessening of staff's anxiety, which in turn made it possible for staff to see the value in data collection and understand the type of data to be collected. By the fourth month (December 2006) of the second year, data collection was the norm across the six Autism Program classrooms.

Parents

For parents, trust emerged as a primary issue. Parent distrust appeared to stem from several sources including previous conflicts with the district, the implementation of a new, unknown program, and culture-related differences in perspective.

How could trust be established?

The first year of the program's implementation required a great deal of contact with parents in order to establish trust. Some parents in the model class had verbalized a lack of trust in the district, relative to concerns about the previous programs that had been offered by the district. Difficulties with proper student supervision in the model class during the early implementation of the district program added to the parents' prior concerns. Parent concerns were addressed by increasing and improving supervision of the children, encouraging and requesting frequent parent feedback, and meeting with parents on a frequent basis to discuss their children's progress. Across the program (model and components classes), poor coordination of parent support services with school services contributed to lack of parent trust. This was eventually addressed by requiring that the individual providing the parent support services communicate with all the teachers and all case managers on a regular basis.

How should cultural issues be addressed?

The model class was primarily composed of children whose parents were born in other countries, some having arrived only recently in the United States. For some of these parents, immigration experiences and experiences in their native countries may have set the stage for having diminished trust of the educational system. Having paraprofessionals who spoke Spanish (the primary language for six of the eight families in the model class) and a teacher who

was open to communicating with parents via translators helped to improve parent relationships by establishing a sense of respect for the diversity of the parents' cultural backgrounds. The case manager for the model was bilingual and initiated frequent contact with the families and responded quickly to parental concerns.

How should the issue of limited English communication be addressed?

Although communication between parents and staff was addressed via bilingual staff or translators, parent training was a problem due in part to the lack of availability of materials in the parents' language. The parent training component provided by an outside presenter underwent changes during the first year in order to address more specifically the needs of the parents. Presentations to the parents using a translator proved cumbersome for the parents who did not need the translation and caused the training sessions to go longer than anticipated, losing the focus of the topic being presented. The format for the last parent session was changed to include two separate parent presentations on the same topic. One was done with a translator for non-English speaking parents and then repeated in English for English speaking parents. This dual delivery format proved to be much more effective in meeting the needs of these two diverse parent groups. Written materials were translated and provided to parents when possible; this was difficult to provide consistently, however, because it required additional time and resources to accomplish.

Human component

Although difficult to quantify, this was a palpable aspect of the program implementation and centered on individuals' reactions to change, on actual and perceived lack of competency, and on the value of witnessing/experiencing positive change. The review of program documents indicated, on average, daily contact with the model class by the case manager. This was necessary in order to address problems quickly and to ensure adequate provision of needed support. The District Behaviorist maintained on average, weekly contact with components classes during the first four months of the first year. During the first year, program staff frequently verbalized feeling overwhelmed emotionally and physically. Across model and components classes, some individuals indicated that they felt *too old* to change or *too old* to implement the required ABA and VB techniques effectively. Other individuals carried out the implementation with great energy and drive.

For many staff members across the classes, there was a *sense of chaos* in the beginning, even though the component classes were not expected to implement all of the program elements (VB methodology, behavior protocols, data collection, etc). Although individuals had attended training, there seemed to be a lack of conceptualization about how to implement the techniques. A variety of stress responses were evidenced by the staff; some expressed self-doubt; others blamed the system for implementing the program without providing more support and training, and others indicated that some of the children probably should not

be educated within the district. In the model class the negative attitudes and beliefs of staff members seemed to have dissipated sometime during the seventh month (March) of program implementation. These noticeable changes in attitudes and beliefs appeared driven, at least in part, by the observable progress that was being made by the children in the class. Observable progress in the children in the components classes also had a positive impact on staff's attitudes across these classrooms.

Question Two Summary

Several specific themes and barriers emerged relative to three distinct perspectives: administrative, staff and parents. Effecting change was the central theme in the administrative area, program conceptualization and implementation was the highlighted theme relative to staff, and trust was the primary theme of the parents.

Question Three

Was the program successful in its efforts to provide appropriate educational services to children with autism?

In order to determine if the program was successful in providing appropriate educational services to children with ASD, results from three sets of measures were reviewed: the pre and post program results of the Assessment of Basic Language and Learning Skills (ABLLS), the pre and post Individual

Educational Plans (IEP) and survey results that were part of the program assessment conducted in July 2006. These measures were reviewed for the model class only, because this was the original class targeted to implement fully all of the program elements on a consistent basis.

Verbal behavior preschool disabled (VB PSD) model class profile

Table 1 offers a summary of the children in the model class in terms of age at the start of the program, days in the program, previous preschool experience, diagnoses, and ABLLS progress. The class was very heterogeneous with the exception of home language; seven of the eight children came from homes that were bilingual or where English was not the dominant language. Only one child came from a home where English was the only language. Six of the eight children had a diagnosis of ASD as defined by ASD, PDD or Autism. Two of the children did not have ASD diagnosis, but narratives described the persistent occurrence of behaviors similar to those associated with ASD. Twelve other diagnoses as noted in school records were present amongst the children, and were as follows: lead, hypotonia, dispraxia, biotin deficiency, macrocephaly, megacephaly, speech delay, autistic behavior, premature birth, developmental delay, severe sensory complication [integration] disorder and behavior problems.

Table 1

Summary of class profile and ABLLS skills

Sex	Days in Prog	Age at Start	Prev Pre-K	Dx as Reported in Records	New ABLLS Skills	Expanded ABLLS Skills
M	177	4-7	Yes	Dev. Delays Behavior problems	17	101/104
F	172	4-2	No	Dev. Delays Premature birth R/O ASD	36	126/127
M	169	4-10	Yes	ASD	1	36/44
M	159	3-4	No	PDD "[High] Lead"	7	1/34
F	150	4-2	Yes	Macrocephaly Poss. Megacephaly Speech delays "Quest. autistic behavior"	7	22/27
F	122	4	Yes	Autism Hypotonia Dyspraxia Biotin deficiency	22	19/19
M	87	3-3	No	ASD "Severe sensory complication [integration] disorder" Severe delay in receptive and expressive language	NA	NA
M	76	3-3	No	ASD Childhood Autism	NA	NA

One child was reported as having had febrile seizures; one child had a history of digestive problems and one had projectile vomiting during infancy. Only two of the children were toilet trained prior to starting the program. None of the children was prescribed medication, but one was taking Biotin supplements. One child was a twin. One child was born prematurely at thirty weeks gestation. Uneventful pregnancies were reported for the children; however, five of the eight children were born by Caesarian sections.

Their ages at start of program ranged from between 39 to 58 months. Four of the children had no previous preschool experience and the other four had preschool experiences ranging from two to six months. Because not all of the children began the program in September and because individual school day absences were high, attendance in the program ranged from 177 school days to 76 school days. Attendance was impacted by illness, by family travel, by unexplained absences and by some parents' initial refusal to allow their children to attend the program.

Specific measures of student progress

Assessment of Basic Language and Learning Skills (ABLLS)

ABLLS were analyzed for skills that were expanded upon and new skills acquired. An expanded skill was defined as a skill that the child could perform to some degree, but for which the child had now demonstrated increased effectiveness or increased consistency of use. For example if at pre program

assessment the child was able to identify Item A when presented with a choice of Item A and Item B, and at post program assessment the child was able to identify Item A when presented with three choices, Item A, Item B and Item C; this then was considered an expanded skill. ABLLS were not analyzed for two of the children in the model class because they did not begin the program until much later in the year and only one ABLLS (pre program) was completed for them.

Because there were a number of implementation issues to contend with initially, it was recommended that the teacher focus on completing only the first nine skills of the ABLLS: cooperation/reinforcer effectiveness, visual performance, receptive language, imitation, vocal imitation, requests, labeling, intraverbals, and spontaneous vocalization

As reflected in the data provided in Table 1, the children as a class expanded on their skills by eighty-six percent (86%). Three hundred and five (305) of three hundred and fifty-five (355) original skills had been expanded. Of the six children assessed, five showed skill expansion gains of more than eighty percent (97%, 99%, 82%, 81%, and 100%) and only one child showed minimal expansion gains (3%). Ninety (90) new skills were acquired by the children as a class, for a twenty percent (20%) gain over the initial three hundred and fifty-five (355) original skills. It should be noted that the child who made minimal progress in expanding on existing skills demonstrated average gain (21%) in newly acquired skills. Children who had some expressive language capacity when they

entered the program were able to expand their expressive language skills to include increased vocabulary, and intraverbals. As a class the children improved or made gains in behavior, specifically in expanding their repertoires of reinforcers and in working/behaving for reinforcers.

The girls in the model class acquired sixty-five (65) new skills compared with the twenty-five (25) new skills acquired by the boys. The girls expanded on one hundred sixty-seven (167) of one hundred seventy-three (173) existing skills; this is a ninety-seven percent (97%) increase, in comparison with the boys' expansion of one hundred thirty-eight (138) of one hundred eighty-two (182) existing skills, a seventy-six percent (76%) increase. It should be noted however, that two of the three male children expanded on ninety-seven (101/104, 97%) and eighty-two percent (36/44, 82%) of their skills for an average of ninety-two percent (92%), and the remaining male child expanded on only one of his 34 skills (3%).

Neither age at start of the program, nor days in the program seemed related to the rate of acquiring new skills or the rate of expanding on existing skills. Children who presented as less impaired, as defined by fewer diagnoses in number and type, generally started the program with more existing skills and made more gains in expanding and acquiring new skills than those children with greater numbers of diagnoses.

Individualized Educational Program (IEP)

It was not possible to compare IEP's for percentage of IEP goals achieved, because the pre and post IEP's were written by different individuals using different formats. Further, pre-program IEP goals appeared to be generic statements because they outlined goals that targeted behaviors typically expected of a preschooler, and did not necessarily directly address the individual student's present level of functioning. Post-program IEP's focused on children's progress within the ABLLS format and did not address percentage of goals obtained. In order to contrast the pre- and post-IEP's using consistent, metric, specific areas were identified for review, with specific behaviors defining each of the areas. IEPs were compared for behaviors present pre- and post-program. Specific areas that were compared included cognitive skills/pre-academics, communication, behaviors, motor skills, interaction/affective responses and play skills. Appendix D lists the areas and the behaviors included in each of the areas for comparison purposes.

Children who did not have language when they entered the program increased their vocalizing and verbalizing, began the use of ASL signs to make requests, and increased their numbers of interactions in order to communicate. Children who had words pre-program were able to increase verbal utterances to sentence lengths and more consistently used verbalizing to communicate. As a class the children increased their ability to attend to task in order to participate in

groups and in individual activities, and increased their ability to transition consistently between activities. Non-compliant behaviors decreased in frequency and intensity, but interest in play and appropriateness of play with toys improved. Initiating interactions and response to interactions was established or improved, overall awareness and responsiveness to the environment was evidenced, eye contact was improved and responding to each one's own name was observed. The ability to make choices was established or improved upon, and gains were made in the children's enjoyment of activities and in their acquisition of independent skills.

As a class the children did not seem to have made significant gains toward toilet training. Two of the children were toilet trained pre program; and of the remaining six only one was toilet trained during the program, a girl.

Observable qualitative growth in two of the children

Although the ABLLS and the IEPs can offer a quantifiable way of measuring the students' progress, for some students progress was best assessed by qualitatively describing their growth through staff's recall of skill levels at the start of the program in comparison with skill levels at the end of the program. Two students in particular, JM a boy and JF a girl, gained only eight (8) skills between them and expanded only on a combined fifty-eight (58) of seventy-three (73) skills. Significant observable qualitative gains, however, were made by both.

Upon entering the program, JF presented with no language, and cried and whined almost continuously. She was not able to participate in any of the class activities and had only one reinforcer, water. If allowed, her preference was to stay all day by the sink and *play* with water. When denied access to the sink or removed from the sink, her whining would increase and get louder and she would become aggressive. She demonstrated no interest in adults or peers. By March, JF had expanded her repertoire of reinforcers to include some toys and some edibles, and play with the staff, and now had no interest in spending her day at the sink. She was able to follow the class routine and engage in parallel play with peers and sign for *chip*, although this was a generic sign for her. JF tolerated compliance trials during which she was removed from preferred activities to activities for which she did not show a preference. Occasionally she would revert to some whining, but would tolerate changes without displaying any aggression. Frequently, she would respond to adult-initiated interaction by intently gazing into the staff member's eyes while showing an engaging grin.

JM was initially open to interaction but only on his own terms. He welcomed physical activity, such as running, jumping and bouncing on the therapy ball. When adults walked into the room, he would approach them and take their hands so that he could go for a walk in the hallway, an activity that he enjoyed. JM found it difficult to sit and engage in most of the classroom activities. He was non-verbal initially, and attempts at communication were restricted to taking adults by the hand and leading them outside of the room. By

the end of the school year, JM came to love puzzles and would verbalize the word *puzzle* to request pieces. He was also able to verbalize single words for other preferred items and activities, although he expressed these in a very soft voice. When offered praise, his voice volume would increase, and he would smile openly. JM was able to follow the class routine and participate in all activities for the expected length of time. He eventually surprised the class staff by sitting on the teacher's chair at the large group table and *leading* a group lesson. During this *lesson* he verbalized some of the numbers, letters and shapes, while presenting to the class the appropriate card. He was also able to lead the group upon staff request.

Although perhaps not measurable by the ABLLS or the IEPs, such qualitative gains were made by the children in many major areas, reflecting increases in activities that they enjoyed, increases in the ability to comply with adult requests (important for safety), increased enjoyment in classroom activities and increased numbers of interactions and expressed desires to communicate.

Review of surveys conducted as part of program evaluation dated July 2006

In June 2006, surveys were developed and completed by parents and program staff. Although the building administrator for the model class was given a survey, this was not returned. Surveys for the model class were reviewed

for answers to questions addressing student progress. Five questions across the surveys specifically addressed student progress. (See Appendix F for a copy of the parent and staff surveys.)

There was an 86% (7 of 8) response rate to the parent survey. Surveys were provided both in Spanish and in English. In the survey the parents were asked to respond *yes*, *no* or *not sure* to the following statement: "I believe my child has made progress in this program." Eighty-six percent (86%) of the parents indicated that they believed that their child had made progress in the program. There were no negative responses but one parent left this item blank. Additionally the parents were asked to answer, *yes*, *no* or not *sure*, to the following statement: "My child was able to transfer skills/behaviors learned in school to the home." Again, Eighty-six percent (86%) of the parents noted that their child was able to transfer skills/behaviors learned in the school into the home but one parent was not sure.

The teacher, speech/language therapist and case manager for the model class completed the survey. There were two questions on the survey specifically addressing student progress: 1) "Have you seen a qualitative growth in the children as the result of VB?" and 2) "Have you seen a quantitative growth as the result of VB (as measured by meeting at least 80% of IEP goals)?" Both questions were answered yes by all, with additional comments provided, attesting to progress made by the children.

All (four) of the paraprofessionals in the model class responded to the survey. One question in the classroom paraprofessional survey addressed student progress. Paraprofessionals were asked to choose if the students in the program had made *significant progress*, *some progress*, *less progress* or *significantly less progress* when compared with student progress in other programs in which they have worked. Two (50%) of the paraprofessionals noted that the children had made *significant progress*; one (25%) responded that the children had made *some progress*, and one did not respond to the statement.

Question Three Summary

Although difficult to quantify, progress was evidenced by the children in the model class. The children, as a class expanded, on their ABLLS skills by eight-six percent (86%) and made a twenty percent (20%) gain in new skills. As demonstrated by their IEPs, the children as a class made gains in communication, reducing negative behaviors and increasing classroom/academic behaviors. Parents and staff of the model class labeled the program successful as indicated by their responses to surveys.

Summary of results

The goal in conducting an action based qualitative analysis of the EBOE Autism Program was to answer three questions: 1.What process was used in the development and implementation of a new and highly specialized program for

children with Autism, within a public school structure which services primarily a low SES, culturally diverse population that is predominantly Spanish speaking? 2. What were the themes and barriers encountered by different groups in the creation and implementation of an educational program for this specific student population? 3. Was the program successful in its efforts to provide appropriate educational services to children with autism?

A definite process could be identified and divided into four phases (needs identification, development, implementation and growth) during the two year period for which data was analyzed. Specific themes and barriers evolved within three separately defined perspectives: staff, parents and administration. Finally, the program can be deemed successful as measured by student performance on ABLLS as documented in IEP's, and by staff and parent perceptions.

Chapter 4

Discussion

Summary of results

In conducting an action based qualitative analysis of the EBOE Autism Program the aim was to answer three questions: 1. What process was used in the development and implementation of a new and highly specialized program for children with autism, within a public school structure which primarily services a low SES, culturally diverse population that is predominantly Spanish speaking? 2. What were the themes and barriers encountered by different groups in the creation and implementation of an educational program for this specific student population? 3. Was the program successful in its efforts to provide appropriate educational services to children with autism?

Question 1: Process

This study describes the development and implementation of a new program that emerged through a multifaceted and process-driven endeavor, that was fast-paced and chaotic at times. Four phases were identified in the process of program development and implementation: needs identification, development, implementation, and growth. The needs identification phase is best characterized by a synergy of identified need, knowledge of a successful model and a vehicle to transform this into action. The presence of any of these components alone may

not have been sufficient to create the condition necessary for change within the district.

The development phase encompassed the transition between idea and implementation and involved a closer look at factors such as state and federal special education codes, district budgets and program costs, exploration of various program models, viability of training opportunities, and identification of willing staff members. The latter, a willing staff was probably the key component to this program's success. Change is difficult and even more difficult, if change threatens individuals' perceptions of competency by introducing a new way of doing their jobs. Thus individuals' commitments to change can assist in maintaining focus during difficult times.

The implementation phase tested needs, ideas and facts with hard reality: on- going program conceptualization, coordination of services, intense support to the model class, on-going training, parent needs, and unforeseen events had to be effectively addressed in this phase. Unanticipated components classes evolved, requiring oversight and additional resources. Some staff members found the transition to the new program difficult, and unexpected training needs evolved across all areas, further taxing already limited personnel resources. Although parents were informed of the program implementation, initially they did not seem to understand what was being implemented, and trust had to be established, especially for the parents in the model class, over a prolonged period. Increased district awareness enabled the further tapping of staff resources,

because some staff members were called upon to conduct presentations and to provide support to other students with ASD diagnosis.

Uncertainty best described the implementation phase and increased confidence best defined the growth phase. Many of the themes that were present during implementation resurfaced during the growth phase; however, the staff was better prepared for these events. A sense of program identity united and empowered the staff, and feedback from the parents and the observable student progress served to quiet the professional doubts experienced by some.
Some of the difficulties encountered were probably inevitable; however, some difficulties likely could have been better planned for, had the program staff understood to a greater degree what they were undertaking. Appendix E outlines the program process and offers a blueprint that can be reviewed prior to considering a new program. Also, when expanding a program, a district can review the steps required during the implementation phase to ensure that the necessary tasks are carried out.

Literature review (Handleman and Harris, 2001; Iovannone et al., 2003; National Research Council, 2001) had identified recommended program components and a summary of these recommendations is outlined in Appendix C. During the first two years of operation, the Elizabeth Autism Program put into place most, if not all, of the recommended program components outlined in the literature that was reviewed. However the realization of the program evolved as a more complicated venture than the mere implementation of recommended

components. Changing the culture across classrooms and buildings, changing staff's perceptions of their roles, changing the delivery of services to children and changing parents' perceptions of the district's ability to meet the needs of their children, represented major barriers that had to be cleared. This is the reality of program development, implementation, and change within education as it occurs in public school settings. The program represented a merging of research with clinical and educational practices and with practical problem-solving in order to provide the educational services required by student diagnosed with ASD.

Question Two: Themes and Barriers

Themes and barriers evolved for each of the identified program perspectives: administrative, staff and parent. A greater number of themes and barriers were present from the administrative perspective. These centered on establishing program identity, coordinating program services, training staff and parents, managing district logistics and providing clinical oversight. Clinical oversight is a concept foreign to education as practiced in a public school setting, yet it is essential as a program component as outlined in the literature (Handleman and Harris, 2001). Implementation of a specific methodology required the use of specific teaching techniques, greater staff involvement, and more rigorous data collection; all of these required more direct administrative involvement and clinical support. Direct administrative involvement and clinical support are not the norm in education. Thus a need was identified for administrators to provide

on-going clinical support, suggesting the possibility that the school psychologist is the best trained individual to carry out these responsibilities. School psychologists have the necessary combination of knowledge within psychology and education to provide clinical support, and with additional training and experience can provide the necessary administrative support.

From the staff perspective, how to conceptualize and implement the specific methodology, how to do data collection and how to supervise the classroom paraprofessionals emerged as the major themes and barriers. Supervision of paraprofessionals has always been an issue, however, because of increased accountability and the need for better supervision of the students; for more direct involvement with the students, teachers needed to rely more heavily on the paraprofessionals in order to conduct the class as required.

How to establish trust, how to address cultural issues and how to address limited English communication evolved as themes and barriers from the parent perspective. This finding highlights the importance of developing cultural awareness, sensitivity and respect among school district staff and consultants. Although the model class was housed in a culturally diverse building and the district itself is culturally diverse, the program staff needed to adapt some of the practices used with parents in order to better address their needs. Culture drives parental conceptions about what is considered normal development (Rogoff, 2003) and directly impacts parents' perceptions of whether or not services are

needed for their children (Flores, G., 2002) and ultimately their involvement in their children's education. Providing parents with maximum information regarding their child's disability, and about needs and treatment can have a positive effect on how they adjust to the child's disabling condition, about whether or not they seek services, and how they manage the child's behaviors (Pain, H., 1999). Overall, establishing a working alliance has been found to increase parental satisfaction (Trute, B and Hiebert-Murphy, D., 2007). Because parental involvement is highly sought in providing services for children with ASD diagnosis, program staff needs to be sensitive to cultural perspectives regarding child development and parental role/involvement, and needs to be respectful and proactive in engaging parental participation. This was a lesson that was only gradually internalized by program staff during the implementation phase but utilized much more effectively during the growth phase.

Major themes that emerged in the program implementation phase from all perspectives included training needs, program identity, ASD awareness, and treatment fidelity. As anticipated, training of staff and parents evolved as a complicated endeavor. For staff, the issue became one of class coverage for teachers and one of working around the district's testing schedule in order not to be disruptive to this process. For paraprofessionals, when to conduct the training emerged as the biggest issue because they are not compensated for training outside of their regular work schedules, and do not receive coverage when they are not in the class. For parents, the language barrier presented as a major

problem, along with cultural perspectives on their roles in their children's education and problems encountered with education programs in the past. The parents may have viewed their roles as more passive than normally encouraged in the literature, thus limiting their participation. Flores (2000) highlights the importance of cultural competence when working with families within the health care system. He specifically addresses cultural belief systems that may interfere with treatment such as *fatalismo* (fatalism) within the Latino culture. *Fatalismo* exemplifies an external locus of control over one's life, thus there is little that can be done to change the course of events or illnesses. For the parents in the program (six of the eight children came from Latino backgrounds), this may have been a factor in limiting their participation. For the staff, although familiar with Latino culture, a better understanding of the role of cultural beliefs in parental involvement may have facilitated a different approach to including parents. Parental training and involvement are a necessity in any program providing services to children with ASD diagnoses.

An unanticipated group of teachers quickly emerged as a group in need of training; this group included the teachers who provided instruction in the specialized areas (Art, Music, Physical Education, and World Languages) to the model and components classes. These teachers had direct contact with the students and needed knowledge of ASD and methods for modifying their presentation of lessons.

Establishing and maintaining a specific identity as a unique, separate program within a multi-level (district, division, and building) administrative structure may have served to empower the staff to persevere in their efforts to keep the program going. It also seems to have created a sense of camaraderie and an internal support structure. Of interest is the reference in the previous chapter to the *human component,* i.e., differing human reactions to the implementation process. Some individuals embraced the change and modified their classrooms, teaching styles and management of staff on a regular basis in order to help meet the requirements of the program. Others implemented the techniques sporadically, with frequent relapses to previous methods and with frequent verbalization of stress and dissatisfaction with the new program. For some, the change seems to have elicited thoughts and feelings of inadequacy which were difficult to move beyond. This manifested as frequent verbalization of dissatisfaction, non-compliance with implementing the VB methodology, increased tension among the classroom staff, and verbalizations that *these* children do not belong in in-district programs. It is possible that reactions may have been influenced not only by individual perceptions of competency, but also by location. Individuals housed in buildings that were traditionally open to special education, such as the model class, may have received more support or acceptance from other staff and administration, thus facilitating their process. Spending time in identifying and changing the culture of a building so that it can be receptive to change is a critical task to accomplish when implementing a new program.

Merriam-Webster's Collegiate Dictionary, 10th Edition (1997) lists over thirteen (13) definitions for the word *change*, and there are thirty-six (36) results for the word *change* in the web dictionary *Dictionary.com* at http://dictionary.reference.com/browse/change. A simple, yet relevant definition of *change* is found in the latter, "to make the form, nature, content, future course, etc., of (something) different from what it is or from what it would be if left alone". *If left alone* implies that the individual would not bring about change intentionally, thus change though inevitable, does not seem to be a preferred condition. Saranson (1996) highlights the fact that teachers' resistance to change centers on the perception that change is not needed, suggesting that a perceived need for change would make the process more acceptable. Sobeck, Abbey and Agius (2006) further underscore the importance of self-determined change as one of four key factors essential to change in the form of successful program implementation. The four factors highlighted as crucial to the success of a new program are (1) appropriateness of the program, (2) school readiness and involvement by the stakeholders, (3) program fidelity and (4) evaluation planning. Although research by Sobeck et al. centered on studying the effectiveness of a substance abuse curriculum as a preventive measure within three districts, many of the challenges and successes described echoed the challenges faced by the Autism Program staff. In particular, Sobeck et al. cite that in a smaller district, because of its size, it was easier for the staff to share a vision and consequently better coordinate services. Although Elizabeth is a large district, the development

of a separate yet coordinated identity for the program may have provided some additional protective factor against failure. The belief that there was a need for this type of program to be implemented in the district and the belief that the methodology was appropriate were important factors to the success of the model class, in which a teacher and speech therapist strongly committed to the program were housed.

Bowman (1999) summarizes the idea that educational reform has primarily not been effective, partly because changes (i.e.: new programs) have been implemented in isolation rather than as part of a cohesive systemic change. Thus a wider vision needs to be present so that it may serve as a pulling force.

Increasing district awareness about ASD, the district ASD program, and modifications and services offered to students with ASD evolved as a programmatic role. This awareness-building not only served to obtain support for the program, but also served to increase the opportunity of mainstreaming for ASD students, and increase the willingness of regular education and special education teachers to work with these students.

Treatment fidelity emerged as a concern, as expected. Although training in the VB methodology had been provided, its application became difficult for most of the teachers and the paraprofessionals across the program, especially during the implementation phase. The implementation of the program required the use of a specific VB methodology which necessitated a change in how education was approached. Application of the methodology required closer supervision of

students and staff, increased interaction with students and among staff, and increased accountability. It is possible that a transition phase involving acclimation to these changes prior to the full implementation of the VB methodology may have facilitated greater treatment fidelity.

The implementation of the program within a low SES district (Abbott District) was not as much of a barrier as initially anticipated, and actually proved to be less problematic than the barriers that related more generally to attempting to implement a new program within a public school structure. The initial assumption was that an adequate budget would ensure the existence of, and effective delivery of, services. This was true to a degree as it related to supplies, to the hiring of additional personnel, and other such tangibles. What emerged as an even more significant concern, however, was the need for change in the way individuals conceptualized education and delivery of services within the classrooms, the buildings and the district as a whole.

Question Three: Program Success

Growth was evidenced in the children who participated in the model class. This growth was documented by comparisons of pre and post ABLLS assessments, by comparisons of pre and post IEP contents, and by reports from staff and parents. It was difficult to quantify the IEP's because they were written by different individuals and did not necessarily address the expected progress as outlined in the previous year's IEP's. In order to establish structure in

the analysis of the pre and post IEP's for the model class, specific areas and behaviors were looked for in the IEP narratives. Areas and behaviors are listed in Appendix D. As a class, the children made their greatest gains in behaviors, especially in the reduction of tantrums, in the ability to follow class routines, in the ability to comply with adult requests, and in the ability to interact and play. Verbal Behavior emphasizes teaching communication skills (verbal or American Sign Language) as a way to increase interaction, but also to reduce negative behaviors.

Self-help skills were improved upon as a class, especially putting on coats, feeding and putting away belongings. However as a class, toilet training was not an area of growth; six (6) of the eight (8) children were not toilet trained at the beginning of the program and only one (1) was toilet trained by the end of the first year. It is possible that a number of factors may have contributed to lack of progress in this area. Toilet training requires the implementation of a structured and individualized plan, as well as the implementation of this plan both in school and at home, necessitating strict adherence to the plan and close collaboration between school and home. The focus of the class as a whole may have emphasized the development of communication skills and reduction of negative behaviors (a priority for parents). Also, as noted previously, a great deal of time and energy was devoted to the implementation of VB methodology, thereby reducing the amount of time available for other tasks.

Frequently gastrointestinal disorders are co-morbid with ASD (Valicenti-McDermott, M., McVicar, K., Rapin, I., Wershil, B., Cohen, H. and Sinnar, S., 2006) and this may be a factor in toilet training difficulties. Interestingly, a review of the children's medical histories noted gastrointestinal problems for only two of the children, both girls. These records noted "digestive problems" for one and "projectile vomiting" during infancy for the other. One of these children was successfully toilet trained during the program. It should be noted that medical histories did not present as very highly detailed, and it is possible that gastrointestinal problems may have been present in the other children but were not reported or not documented.

An interesting finding in reviewing the children's medical history was that five (5) of the eight (8) children were delivered via Caesarean sections (C-sections). A cursory review of the literature on the relationship between ASD and C-sections did not yield much information, except for one study in which it is mentioned as part of the medical history. The study by Konstantareas and Homatidis (1999) focused on the relationship between chromosomal abnormalities and severity of autistic behaviors in children with diagnosis of Autistic Disorder. Three (3) of the eight (8) children mentioned in the study were delivered via C-sections. An editorial by Allison Shorten (2007) expresses concerns over the rise in C-sections, as reported in international medical literature. She reports the figures as having increased significantly in Australia and Latin America, and notes the rate of C-sections for the United States as

having increased to thirty point two percent (30.2%) by 2005. Shorten is an advocate for informed childbirth choices through knowledge of the benefits and of the harm of C-sections. It is doubtful that C-sections have a causal relationship to ASD. They may emerge, however, as a developmental history marker and when present along with other concerns may warrant closer consideration of the need for intervention services for the child. The importance of early intervention services for children with ASD diagnosis is emphasized throughout the literature (Center for Disease Control and Prevention, 2007 b; Grinker, 2007; National Institute of Health, 2004) and having an additional indicator to increase the early detection of the presence of ASD may further assist in providing needed interventions services as early as possible.

All of the children who participated in the first year of the model program made some progress in acquiring new ABLLS skills and in expanding existing ABLLS skills. No relationship was evident between ages at the start of the program, days in the program, previous preschool experience and progress in the ABLLS skills. However, children with less involved diagnoses seemed to have made relatively more gains.

Surveys results showed satisfaction with the program across staff and parents. All professional staff responded favorably to the survey, reporting quantitative and qualitative growth in the children. Six (6) of the seven (7) parents responding to the parent survey reported that their children had made progress in the program and that their children had been able to transfer the skills

learned at school to the home. Transferability of skills is often difficult for children with ASD diagnosis, thus parental reporting of skills having been transferred to the home is a highly desirable and favorable outcome. Additionally, some of the parents wrote statements in the surveys thanking the staff for their work with their children.

Two of the paraprofessionals reported significant progress in the children; one reported some progress and one did not respond to the statement addressing progress. Overall, the least amount of program success was reported by the paraprofessionals.

Significance of the results

Demonstrated growth in the children and noted parental satisfaction suggest the viability of the implementation of a highly specialized program for students with ASD diagnosis within a regular public school structure. Further, the outlining of the phases, processes and anticipated barriers to program implementation, offers a general blue print for program development and implementation that can be utilized by other districts and modified to meet their specific needs.

The success of the program also highlights its tremendous cost effectiveness. The cost of out-of-district schools in New Jersey, specifically for students with ASD diagnosis can average $95,000.00 per year. It cost the district approximately $50,000.00 for training and consultation services between

September 2004 and December 2006. In December 2006, the program provided direct services to thirty-six (36) students; should these students have needed an out-of-district placement, the cost to the district would have approximated *three million four hundred and twenty thousand dollars ($3,420,000.00).*

For the Autism Program as a whole, actual barriers were identified, such as professional doubt, difficulties with supervision of classroom staff, data collection problems and difficulties with the fidelity of implementation of the VB methodology. Also identified were the specific means used to overcome these barriers, including additional staff training and increased support and clinical supervision provided by the District Behaviorist. It is hoped that the documentation here of the challenges faced and met in the implementation of this program will assist the district, and other districts, in the successful implementation of future classes, without their having to experience all the challenging moments.

Program success also helped the district in identifying critical elements for successful delivery of special education services, such as increased communication among teachers, among case managers, among paraprofessionals, service providers and parents; other elements included on-going training for all staff, and increased awareness across the district about special education students as a whole.

Although increased cultural awareness is encouraged in culturally diverse communities, putting this awareness to effective use may be a very elusive goal. The medical field, as evidenced by available literature seems to be making a greater effort in understanding how culture impacts on illnesses, treatment and relationships between provider and patient. Available literature on this topic was poor within psychology and education, especially as it pertained to parent training; most of it centers on parent training without addressing culture. Even this program's staff, who were very much experienced in working with parents from culturally diverse backgrounds, found that it was a difficult learning process to determine how to best address training and communication in order to encourage parental involvement. The experiences of this program highlight the importance of direct experience with specific culturally diverse populations in order to have a chance at developing meaningful understanding and effecting positive change. Action based research should be encouraged across educational settings in order to identify problems, research them and develop practical and effective solutions.

Further, a program like the one described in this study emphasizes the need for collaboration between school staff and parents, and the need to extend services into the home. Although this may not be an acceptable or popular view of the role of education, the reality is that for some, education is not only academics, but also a more holistic endeavor. This may be the case especially for students with mental health needs, for whom parental involvement may be

absolutely crucial in order to attain significant growth. *How* best to achieve such a level of collaboration for this particular population needs to be explored further.

The need to identify appropriate measures to assess progress in the education of students with ASD diagnosis is highlighted. Traditionally success for students with diagnoses of ASD has been measured by performance on intelligence measures, post intervention. For many students this is not an accurate way of assessing growth. A more standardized and systematic way of writing IEP's may provide an individualized assessment tool that could be more effective as a measure of progress. These IEP's, along with the ABLLS can quantify progress relative to the student's level of ability. Qualitative observations of growth, although valuable as a means of documenting program effectiveness are difficult to quantify because they are usually in the form of written or oral narratives. Consequently, video recording of children performing the same task at various points in time during the school year may be a way to more document more accurately the qualitative growth evidenced by the children.

The trend toward gender differences in student progress were unexpected and may imply better prognosis for girls in terms of treatment response or may suggest that a different treatment focus should be explored for boys. The difference in progress between girls and boys, although not clear and based on a very small sample, poses gender as a possible artifact in intervention type and/or outcome, and a factor that should be considered in future research.

The high incidence of children in the class being born via C-section warrants further research to determine the type of relationship between ASD and C-sections, if any exists at all. The incidence both of ASD and of C-sections has been on the rise. ASD is a neuropsychological disorder with growing evidence of a definite genetic origin. It is possible that trauma as the result of factors leading to the C-section may set in motion the circumstances for ASD predisposition to manifest itself. Alternately, the need for the C-section could be the result of a condition precipitated by the predisposition for ASD. Again, this is an area that warrants further study and that can be done by collecting good birth histories for all children and identifying the rate of C-sections in ASD diagnosed children and in those not diagnosed.

Contribution to the field

Review of the literature had highlighted the lack of research and of process guidelines on the implementation of a program for children with ASD diagnoses within a public school structure. Although research is available on the efficacy and feasibility of these programs in clinical and university settings, these programs do not have the restrictions and limitations that are normally associated with the typical public school structure. The existence and growth of the program, coupled with the qualitative and quantitative growth demonstrated by the children is proof that this type of program can be implemented and can succeed under the auspices of a public education system.

The need in New Jersey for in-district programs was evidenced by the establishment of the New Jersey Department of Education Grant that challenged districts to establish or expand current *programs* for students with ASD diagnosis. Most recently (December 19, 2007) the Miami based, and Spanish language newspaper *El Nuevo Herald* (The New Herald) published an article by Ketty Rodriguez. In this article she reports the need for specialized programs for children with diagnosis of ASD, citing also the beginning efforts by the Miami Dade Board of Education to attempt to address the needs of these students. Clearly, a need is evident beyond New Jersey for in-district programs for students with ASD diagnosis, and the Elizabeth Autism Program can serve as a blueprint to program implementation for other districts.

The importance of differentiating between a class type and a program is apparent from the results of this study. Class types are common within special education and are designed to address the specific educational needs of student with certain disabilities. These *classes by type* address primarily the academic needs of the students they serve. Conversely, a program is more encompassing and offers coordinated services in order to achieve maximum growth in multiple domains. The success of the Elizabeth Autism Program not only documents the feasibility of implementation of an ASD program in a public schools setting, but also underscores the importance of moving away from a class type mentality

towards the provision of comprehensive and well coordinated services in the form of programs.

One of the barriers in providing services to ASD students as identified in the survey of State Education Agencies (Muller, 2006) was the lack of agreement among professionals about the most effective research-based interventions. The study highlights the effectiveness of ABA, and specifically VB, to develop and enhance communication for children with ASD diagnosis. Applied Behavioral Analysis is widely recommended and its use is supported by the National Institute of Mental Health (NIMH, 2004). The feasibility of implementing this methodology within a public school setting should encourage other districts to implement programs for students with ASD diagnosis and specifically incorporate ABA and VB as parts of their programs.

The need to develop and use appropriate tools that effectively measure progress within this population is highlighted, and a practical approach is offered. Initial IEP's can be written, based on the results of the ABLLS and the IEP's reviewed at the end of the year, based on the child's performance on the second ABLLS administration. The children's progress as a group can be measured by the percentage of ABLLS skills enhanced and new skills acquired.

Parental involvement and training is encouraged throughout the literature (Brookman-Frazee, 2004; Ingersoll and Dvortcsak, 2006, among others). However, a language barrier and cultural differences can make parental involvement very difficult, and most studies neither address these differences, nor

offer guidelines on how to work best with parents from diverse backgrounds. The present study shows that cultural and language differences can be overcome to obtain parental support and assistance; overcoming these differences can be more vital than simply opting not to have parental involvement in the program. Understanding and respecting cultural differences, actively working on establishing relationships with parents that transcend the traditional roles of educator/clinician/parents, and modifying delivery of services to the families are ways to encourage parents' involvement in their children's education. This study offered practical strategies for meeting the challenges of working with culturally and linguistically diverse parents.

As noted earlier, one of the criticisms of research as it relates to education is the lack of application to actual educational settings (Stringer, 2004). The study identifies a process and perspective-specific themes that can serve to guide any public school district in program conceptualization and implementation. It encourages districts to identify their own barriers and develop effective ways of addressing them in order to effect meaningful change to address the needs of their students.

Limitations of the study

Because the study was action based, not only the application of the results but also their significance is most relevant to this district; specific generalization of the findings to other districts may not apply equally. Additionally, although a number of documents were reviewed, it is really one individual's perspective that drove the research process, that of the District Behaviorist. It is possible that if viewed from teachers', from service providers', from parents' or from other administrators' perspectives that a different set of findings may have emerged.

Although growth was evident in the children, it was somewhat difficult to quantify the information obtained from the ABLLS and the IEP's in a manner that led to easy, direct comparisons. Descriptive IEP's may tend simply to identify gains, and not identify the areas where growth was not made. The students' progress was not compared with the progress of another group of students, thus it could be surmised that *progress* was really the result of receiving some service, generally speaking, rather than the specific services of this program.

Further, the heterogeneous nature of the class as defined by previous experience, diagnoses, etc, added a number of variables that were not accounted for in terms of their impacts on student progress. However these are the daily realities of education as it must be practiced; children from a variety of backgrounds must be educated effectively within their school districts, and education must continue to develop ways to assess student progress meaningfully

and evaluate the effectiveness of instruction provided to students despite the threats to the validity of assessment efforts posed by the typical school environment.

Future directions

After the *noise* of program implementation and growth has begun to decrease, longitudinal studies for the children involved in the program should be undertaken. A much more rigorous format for analysis of the ABLLS and IEP data should be developed as well. Overall, an ongoing self-analysis process that takes into account trends in the field, and the changing needs of the population that it services should be part of any program implementation, especially one servicing children with ASD diagnosis. The spectrum designation of the diagnosis, lack of etiology-based treatment/interventions, the mandate for services for children with ASD diagnoses, and a plethora of on-going research dictates program implementation as an active dynamic process, not a static, finite one.

Current status of the program

Presently, the program is in its third year and provides direct services to forty-two (42) students in seven (7) classes across three (3) separate buildings. It is anticipated that two (2) more Autism Program classes will open for the 2008-2009 academic year, concurrent with the opening of two (2) more new school buildings in the district. It is expected that the addition of the two (2) new classes

will add significant stress to the current program structure, in terms of taxing current personnel. Major budget cuts have impacted on the district, but not on the program. Current financial strain, however, may allow for the hiring only of classroom staff, but not for the hiring of additional support personnel.

The data collection for the program analysis covered the period between November 2004 and December 2006, and it is now a year later. The program no longer hires outside consultants and relies on its own staff for training and clinical support. Training continues to be a priority and treatment fidelity continues to be a concern due to issues of complacency rather than competency. Classrooms are set up well, program books are in place for all the students and data collection is the norm. Full ABLLS were completed for all students by October 2007 (2007 - 2008 academic year) and will be repeated by the end of April 2008, allowing for a full six months time span between pre and post assessment for all the students in the program. IEPs are presently written, based on the results of the ABLLS. Speech and occupational therapies are integrated into the classrooms and one hundred percent (100 %) of the students are exposed to non-disabled peers to some degree on a weekly basis.

Parent support groups and parent didactic training sessions began in October for the 2007 – 2008 academic year, much earlier than the previous year. The parent home education component continues, but is being modified in order to service more families. It is planned that, in addition to the home training, small group parent sessions will take place during the day at the school sites and will

address needs that are common to these parents. Besides reaching more families, this will also allow the parents to interact with school staff, observe techniques in vivo and practice strategies/techniques themselves.

The program has not been faced with any litigious cases since the first year. One family has reported moving to Elizabeth because of the program, and community service providers are becoming familiar with the program. Presently program staff is pursuing a relationship with a local university/hospital in order to address mutual needs. For the district, this relationship could translate into additional services for parents and students.

Increasing district awareness about ASD and the program continues to be a programmatic function. In April 2007 during Autism Awareness Month, general information was distributed to the entire district via the district's electronic newsletter (refer to Appendix H). One of the schools held a breakfast for the staff and the Autism Program parents, and a show featured the students in the Autism Program. An autism ribbon, as well as an interlocking puzzle featuring the pictures of the students in the program and of individuals who are part of their daily school lives, were made in collaboration with the art teachers and were displayed in the school cafeteria for the month of April. Advanced Art students made an autism puzzle banner and displayed it in the school's cafeteria (refer to Appendix I), further highlighting the growing acceptance of the program by regular education students and staff in this school. Another one of the schools

disseminated information on ASD to the staff and displayed a banner in the main hallway during April; again this was made in collaboration with the school's art teachers (refer to Appendix J).

In June 2007, the Autism Program staff held its *First Annual Appreciation Night* (See Appendix K). The gathering brought program staff, administrators, students and parents together for an informal social event. Each of the classes displayed work by the children and/or information about accomplishments by the children. Food was provided by staff and parents. Three days later, the program staff held its *Second Autism Program Staff Get Together*. In contrast to the one held the previous year, this one was held in a restaurant to accommodate all the new staff. Appendix L is a copy of the invitation to the first staff get together and Appendix M is a copy of the invitation to the second get together.

The invitations to the first and second year staffs' get together and the appreciation night, highlight the cohesiveness established by the program staff, and the evolution of the program. The first year's staff party invitation tentatively celebrates the accomplishments of that first year. The appreciation night clearly resonates as a celebration between staff and parents. The second year's staff party invitation boldly and proudly invites the staff to *savor* their accomplishments.

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Appendix A

DSM-IV-TR Diagnostic Criteria for 299.00 Autistic Disorder

A. A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):

(1) qualitative impairment in social interaction, as manifested by at least two of the following:

(a) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body gestures, and gestures to regulate social interaction
(b) failure to develop peer relationships appropriate to developmental level
(c) a lack of spontaneous seeking to share enjoyment , interests, or achievements with other people (e.g., by lack of showing, bringing, or pointing out objects of interest)
(d) lack of social or emotional reciprocity

(2) qualitative impairment in communication as manifested by at least one of the following:

(a) delay in, or total lack of development of spoken language (not accompanied by an attempt to compensate through alternative models of communication such as gesture or mime)
(b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
(c) stereotyped and repetitive use of language or idiosyncratic language
(d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

(3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

(a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
(b) apparently inflexible adherence to specific, nonfunctional routines or rituals
(c) stereotyped and repetitive motor mannerism (e.g., hand or finger flapping or twisting, or complex whole-body movements)
(d) persistent preoccupation with parts of objects

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (30 symbolic or imaginative play.
C. The disturbance is not better accounted by Rett's Disorder or Childhood Disintegrative Disorder.

Appendix B

DSM-IV-TR Diagnostic Criteria for 299.80 Pervasive Developmental Disorder Not Otherwise Specified (Including Atypical Autism)

This category should be used when there is a sever and pervasive impairment in the development of reciprocal social interaction associated with impairment in either verbal or nonverbal communication skills or with the presence of stereotyped behaviors, interests, and activities, but the criteria are not met for specific Pervasive Developmental Disorder, Schizophrenia, Schizotypal Personality Disorder, or Avoidant Personality Disorder. For example, this category includes "atypical autism" – presentations that do not meet the criteria for Autistic Disorder because of late age at onset, atypical symptomatology or subthreshold symptomatology or all of these.

Appendix C

Summary of recommended program components based on literature reviewed

Curriculum

A. Areas
   - Social Skills
   - Language
   - Communication System
   - Developmentally Appropriate Tasks
   - Fine Gross Motor Activities
   - Cognitive Skills
   - Organizational Skills
   - Replacement of Problem Behaviors

Specialized Instructional Method

A. Applied Behavior Analysis (ABA)
   - Discrete Trial
   - Verbal Behavior
   - Pivotal Response Treatment (PRT)

B. Floortime

C. TEACCH – Model

D. Others

Parent Component

A. Parent Training/Coaching

B. Parent Support

C. Parent Education

Staff Training

A Didactic

B. Hands on

Administrative Structure

A. Coordination of Services

B. Clinical Supervision

C. Program Assessment

Recommended General Features

A. Program Specific

The program must have a comprehensive approach that is well coordinated.

The program must have a specific curriculum that addresses the areas listed above.

The program must utilize a specialized instructional method as above.

The program should utilize behavioral techniques and positive reinforcement.

The classrooms should be well structured and rewarding to the children.

Natural environment teaching is encouraged as well as task variability and interspersal, and the frequent use of visual cues.

The program staff must be knowledgeable about ASD.

There must be opportunity for the students in the program to interact with non-ASD peers.

The classroom program must have structure, direction and organization.

The program must have a built in monitoring system.

The program must have an extended school year component.

B. Children Specific

The children's educational program must be individualized and based on the child's strengths and weaknesses. Children's progress must be monitored consistently.

Objectives must be observable and measurable.

Objectives should have an impact on child's ability to function across settings, school, family and community.

Individual activities must be based on developmental and ability level of the child.

Appendix D

Pre and Post IEP comparison

Cognitive skills/Pre-academic skills

- Sorting
- Matching
- Uses crayon, brush
- Uses utensils
- Understands/uses cause and effect toys
- Puzzles
- Paying attention to task
- Toilet trained

Comments:

Motor skills

- Fine motors: Holds utensils, brushes
- Gross motor: Walks, runs, jumps, stairs

Comments:

Communication

- Expressive language
- Receptive language
- Non-verbal

Comments:

Behavior
- Sensory/noise/lights/touch
- Foods
- Self-stimming
- Tantrums
- Transition
- Redirection
- Perseveration

Comments:

Interaction/Affective responses
- Responds to adults, peers family
- Initiates with adults, peers, family
- Demonstrates interest in adults, peers, family
- Eye contact

Comments:

Play skills
- Plays with peers/adults
- Plays parallel with
- Interest in toys
- Appropriate use of toys

Comments:

Appendix E

Recommended structure for program development and implementation

Development Phase

Identify need.

Identify individual(s) to implement and coordinate this effort. Individual(s) should have a combination of clinical, administrative and district knowledge.

Identify the population that you want to service. Develop entrance criteria. Identify methodology. Develop a philosophy. Begin to consider exit criteria.

Identify district issues such as bilingual, low socioeconomic, lottery schools, extended day schools, extended year school, others. Identify how this impacts and develop a plan.

Choose willing teacher/service provider/case manager/paraprofessionals.

Meet with building administrators and establish cooperation.

Develop building awareness.

Develop district awareness – more general.

Provide training for all.

After children have been identified provide information session for these parents. Inform parents prior to the start of the year.

Review therapy services. Include therapists in training sessions.

Reach out to neighboring district implementing similar program.

Conduct a literature review to identify viable programs and identify trends in the field.

Implementation Phase

Provide clinical oversight.

Develop a check list of what is expected of the teacher; identify time expectations for list items.

Provide solid consultation, once per month. Meet with consultant pre and post consultation. Request a written report.

Provide solid district support to teacher. Visit class frequently.

Identify training needs and implement.

Set up observation by parents.

Set up meeting with parent, teacher, case manager and service provider.

Require Data Books for each student.

Monitor implementation of methodology to ensure treatment fidelity.

Once a month have meeting of everyone in the program including service providers and special teachers. Use this as information sessions and on-going training.

Formal teacher and paraprofessionals meetings daily.

Formal teacher and case manager meeting once per week.

Formal teacher, case manager, paraprofessionals and service provider meet once per week.

Parent Training. Survey parents to identify needs. Recommend training sessions once per month.

Parent Support Groups. To meet every two weeks if feasible.

Home Component. Identify how this will be provided.

Modify entrance criteria as needed.

Develop exit criteria.

Continue to develop district awareness.

Establish supports for students exiting program.

Yearly program assessment.
List chronology of all events.
Survey all staff/parents/administrators.
Student measure of growth.

Summers should be used for planning and training. Program assessment can be conducted at this time.

Establish relationship with neighboring districts implementing similar programs, coordinate services (parent and staff training) if appropriate.

Conduct literature review to identify trends in the field.

Growth Phase

Provide clinical oversight.

Establish meeting schedule for all staff.

Identify training needs and set up training schedule.

Provide training for other identified staff.

Continue building school awareness.

Expand district awareness.

Train staff that will provide services to students exiting the program.

Early on, identify students' needs for the following year, in terms of program.

Identify staffing needs.

Explore possibility of relationships with appropriate local agencies, hospitals, training facilities.

Explore grant opportunities.

Conduct literature review to identify trends in the field.

Appendix F

Verbal Behavior Program Surveys

Parent Survey

School:

Class:

Date child began program:

1. Has your child attended school previously?
Yes
No

2. The teacher was open to communicating with me.
Yes
No

3. Communication was done via a
Phone call
Notebook
Other:_____

4. I would have like more communication with the teacher.
Yes
No
Not applicable

5. The case manager was open to communicating with me.
Yes
No
Not applicable

6. I would have like more communication with the case manager.
Yes
No
Not applicable

7. I would have liked more communication with the service provider (Speech Therapist/Occupational Therapist/Physical Therapist)

Yes
No
Not applicable

8. I believe my child has made progress in this program

Yes
No
Not sure

9. I believe that my child would have made the same progress in another program

Yes
No
Not sure

10. My child was able to transfer skills/behaviors learned in school to the home

Yes
No
Not sure

How can we improve the program?

Any other comments:

Thank You!!

Inventorio de padres (Spanish language parent survey)

Escuela:

Clase

Fecha que el niño/a comenzo:

1. Su niño ha asistido a la escuela previamente.
Si
No

2. La maestra estuvo dispuesta ha comunicarse conmigo.
Si
No

3. La maestra se comunicaba conmigo via:
Telefono
Libreta
Otra manera:_____

4. Me hubiera gustado haber tenimo mas contacto con la maestra.
Si
No
No aplicable

5. La persona a cargo de el caso estuvo dispuesta a comunicarse conmigo.
Si
No
No aplicable

6. Me hubiera gustado haber tenido mas contacto con la persona a cargo de el caso.
Si
No
No aplicable

7. Me hubiera gustado haber tenido mas contacto con las terapistas (Terapista de Habla y Lenguaje/Fisica/Ocupacional)

Si
No
No aplicable

8. Estoy segura/o que mi hijo/a ha progresado durante este año.

Si
No
No aplicable

9. Creo que mi hijo/a hubiera progresado igualmente en otro programa.

Si
No
No aplicable

10. Fue evidente que mi hijo/a pudo transferir lo aprendido en la escuela ha la casa.

Si
No
No aplicable

¿Como podemos mejorar el programa?

Algun otro comentario:

¡Gracias!

Classroom Assistant Survey

School:

Class:

1. Have you worked in another type pf program?
Yes
No

2. Have you previously worked with children with Autism?
Yes
No

3. Comparing this program to other programs you have worked in, how would you compare the progress the children have made this year?
    a. In this program the children made significant progress
    b. In this program the children made some progress
    c. In this program the children made less progress
    d. In this program the children made significantly less progress

4. The best way to provide you with training is:
a. Daily meeting with teacher
b. Weekly meeting with case manager and teacher
c. Once a month as a group in a classroom situation
d. Combination of above

5. The best way to improve the program is:

6. I enjoy working with children with Autism.
Agree
Disagree

7. I prefer working with typically developing children or children with another disability.
Agree
Disagree

8. I believe that children with Autism do not belong in programs in the district.
Agree
Disagree

Teacher/Case Manager/Service Provider/Administrator Survey

School:

Class:

1. Have you seen a qualitative growth in the children as the result of VB?

2. Have you seen a quantitative growth as the result of VB (as measured by meeting at least 80% of IEP goals?

3. Was there a particular child that benefited more? Describe typical behaviors/cognition/language.

4, Was there a particular child that benefited less? Describe typical behaviors/cognition/language.

5. Was the program successful?
   Explain:

6. What could have made the program more successful?

Appendix G

Autism Program District Checklist

School: Class: Date:

1. Data Book: ABLLS
   G&O
   List of Reinforcers
   Manding Goals
   Behavior Goals
   Data sheets

2. Family Communication Book.

3. Weekly meeting with case manager.
   a. Date and time:

4. Daily meeting with aides.
   a. Time:

9/06

Appendix H

Elizabeth Board of Education electronic newsletter *Excellence News*, April 2007

Appendix I

Elizabeth Board of Education electronic newsletter *Excellence News*, June 18, 2007

Appendix J

Banner displayed in main hallway during Autism Awareness Month

Appendix K

Autism Program First Annual Appreciation Night invitation

Appendix L

Invitation to first Verbal Behavior Staff Get Together

To laugh often and much, to win the respect of intelligent people and the affection of children….to leave the world a bit better ….to know even one life breathed easier because you have lived, that is to have succeeded.

❖ ***Bessie Anderson Stanley***

The first year in the implementation of a new program can be the most difficult, rewarding, challenging, frustrating and overall the most amazing learning experience. Though we have worked in separate buildings there has been a sense of identity, cooperation and support amongst everyone involved. We thought it would be a nice idea to get together and celebrate the individual triumphs of our students, and our professional and personal growth. So, with that in mind, Jennifer Rodriguez has graciously opened her home to us.

WHAT: Verbal Behavior Staff Get Together

WHEN: Thursday, June 8, 2006
5:00 PM

WHERE: Jennifer Rodriguez's Home
XXXXXXXX
XXXXXXXX
XXXXXXXX

Directions:
XXXXXXXX
XXXXXXXX
XXXXXXXX

We are asking that anyone coming bring a dish or a drink or a dessert. Thanks!!
Please RSVP to Jen (rodriguezjen@edu.elizabeth.k12.nj.us) or Lucy (hernanlu@elizabeth.k12.nj.us) by Friday, May 27, 2006.

Appendix M

Invitation to Second Autism Program Staff Get Together